ILLINOIS

September, 1946

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RESEARCH IN THE SERVICE OF MEDICINE

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September, 1946

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The Illinois Medical Journal

Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Harry Culver, Walter Stevenson, Raymond W. McNealy.

Editorials

SPECIAL MEETING OF THE HOUSE OF DELEGATES

Springfield, July 28, 1946

A special meeting of the House of Delegates of the Illinois State Medical Society was called by the President and Chairman of the Council to be held at Springfield on Sunday, July 28, 1946. The purpose of the meeting was to consider and act upon a motion and amendments which were approved by the House of Delegates at the closing session during the 1946 annual meeting on May 16th.

These items for consideration pertained to the family group surgical and medical expense policy which had been approved at a special meeting last January and which was being sold throughout the state. Objections had been made to five clauses in the policy. Certain amendments were suggested and approved by the House, and the committee studying prepayment plans for medical and surgical care had been instructed to endeavor to adjust these five points, and then report to the Council, and later, if necessary, to a special meeting of the House of Delegates.

The company writing this policy (the only one which has received committee approval to date) was willing to make some of the suggested changes. Two of them were standard provisions which could not be changed under the insurance code of the State of Illinois, two changes were acceptable to the company, and the fifth and last the company was unwilling to alter at this time.

There were more than 120 official delegates present at this special meeting and the entire forenoon was devoted to a general discussion of the subject contained in the call and listening to the report of the Committee to the House. In the afternoon the committee's report was approved. The former committee which had been functioning for two years resigned, and Chairman of the Council was instructed to form a new committee as soon as possible to carry on this important work.

Following the meeting the Chairman of the Council selected a new committee, the personnel of which was approved by the Council, and notified by the Secretary's office of their appointment. This new committee is composed of:

Dr. Percy E. Hopkins, Chairman, Chicago
Dr. Warren W. Furey, Chicago
Dr. Harold Miller, Chicago
Dr. Charles P. Blair, Monmouth
Dr. Edwin S. Hamilton, Kankakee
Dr. David B. Freeman, Moline
Dr. E. G. Quattlebaum, Jr., Rockford

This new committee will meet as often as is necessary to carry on the work of securing additional insurance companies to write policies meeting the requirements which have been set up by the commitee, the Council, and the House of Delegates. At the present time several reliable carriers have given us assurance of their desire to participate in developing a policy similar to the one already approved. It is our hope that many

reliable insurance companies will enter the field, and through their agency forces, sell this protection to as many citizens of Illinois as possible.

The minutes of this special meeting of the House of Delegates will be published in an early issue of the Illinois Medical Journal so that the entire membership may know what actions were taken. In the meantime it is hoped that physicians in Illinois will become familiar with the protection afforded by this type of coverage to give aid in paying the costs of the so-called catastrophic illness and accidents suffered by the people, especially those in the lower income groups.

At the end of this special meeting the House of Delegates gave a vote of thanks to the old committee and its chairman for the fine work conducted over a period of two years. It was obvious to all that the committee had done a fine job and had paved the way for a smoother functioning of the new committee which has been formed to carry on this important work.

MEDICOS RATE THE CHEERS FOR SHEER VALUE TO MANKIND

Under the above heading, a most interesting syndicated article appeared in Billy Rose's column in the Chicago Sun, under date of August 7, 1946. When so many people are condemning the members of the medical profession for their alleged shortcomings, and with the ever-increasing threats that the government will take over the practice of medicine, there is indeed a sense of comfort derived through reading this interesting article.

In his article, Billy Rose said:

"For my dough, the most important people in the world are doctors. If you have a bum ticker, if a sick tooth is beating drums inside your head, if your kid breaks out in spots, whom do you holler for? Truman? Henry Kaiser? Adm. Nimitz? In a pig's ear! You send for the man with the little black satchel.

"I wouldn't care if they took 99 per cent of the inventors, politicians and generals and chopped them up for firewood. You can't tell me that this is a better

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world because it's got an airplane. I don't give a hoot whether I can get to Los Angles in seven hours, seven days or seven weeks.

"To me that silver bird with the cute stewardess is the same gadget that dropped a cup of plutonium on a city and bloop! — no city. If I were putting up a statue to an inventor, my hero would be the obscure Dutchman who invented the microscope.

"Compared with physicians, politicos don't rate very high with me. After being in charge for 5,000 years, they've still got us up the well-known creek. I suppose they mean well, but they always wind up making the same speech, 'as of yesterday, my country is at war with your country.'

"I stood in the streets and hollered with the rest of the peasants when Eisenhower rode up Fifth avenue last summer. I think Ike is a great guy, but let's face it — does he rate as many cheers as Fleming, the man who found penicillin? Not in my book.

"My respect for doctors is not something I came by an hour ago because I needed a midweek piece. I have been tipping my hat to these gentlemen ever since I had a hat. There wasn't much on the obituary page when an old friend of mine, Dr. Emanuel Libman, died a few months ago.

"He was a slender little party with pink cheeks and a library of classical records he never had time to listen to. During his years as head of the great Mount Sinai hospital he charted a good part of what the top specialists know about your heart.

"A lot of people are going to see thousands of extra sunrises because of Manny Libman. Do you know anyone in Congress who has given the world one-tenth as much?

"I know a powerful good medicine man named Jules Lempert, who has devised a startling method of building a window of living tissue into the structure of a dead ear. For years they called him quack, and insisted the operation was impossible.

"Today he lectures at Harvard Medical, and they write articles about him in Readers Digest. At the end of a working day, this talented surgeon can say, 'I have given a man back his hearing.' Do you think Benjamin Fairless of U. S. Steel is nearly so important a citizen?

"In a quiet way, doctor chaps are brothers to the priceless madmen who clean out machine gun nests or claw their way up the slopes of Mount Suribachi. When I was a kid I had scarlet fever, and they tacked up a red sign on my house and nobody could come near me. But a little old geezer with a black bag walked right in.

"I can still see the tiny red veins around his nose, and catch the smell of iodform and tobacco from his rumpled suit. I remember asking my mother, 'Don't doctors get sick?'

"Mom assured me they didn't — but she was fibbing. The list of doctors who were struck down by the bugs they were chasing would stretch from here toValhalla.

"Of course, the great stand-outs of medical science don't need me to beat their drum. The Warner Bros. took care of that some years ago in their 'doctor' cycle. You couldn't go into a theater without seing Paul Muni inoculating rabbits.

"But the doctor in your neighborhood, with the stethescope and 1937 Chevvy, could use a little applause. In a society that rates a guy by how big a check he can write, he knocks his brains out for practically no dough.

"Remember that when you run into real trouble — something bites you in the belly, a sledge-hammer starts knocking at the base of your skull, your heart is pumping like an old hot water bag — it's old Doc Sawbones who comes around and stops the hurt.

To me, that's as important as anybody can get."

At the end of a long day after caring for the sick and afflicted, hearing the stories which must be told in detail by the anxious patient, then perhaps a few emergency calls, the average physician who finds an article complimenting him written by a popular writer who insists that this is not something that came up on the spur of the moment, but that he has been tipping his hat to doctors ever since he had a hat, it will make the tired medico think that after all some do appreciate his services, and that he still has friends outside of his own realm.

It is indeed a pleasure to reproduce this interesting compliment to the members of the medical profession. When we see more of such articles in the future, we shall indeed, be most happy to tell the writer how much we appreciate his commendations.

LOYOLA SCHOOL OF MEDICINE HAS NEW DEAN

Dr James J. Smith, former director of physiology for the Eighth Air Force Medical Establishment, has been named Dean of the Loyola University School of Medicine. Dr. Smith began his duties at Loyola on August 1.

A Lt. Colonel in the Medical Corps, Dr. Smith was recently released by the Army after five years of service in the United States and England. He succeeds Dr. Francis J. Braceland who has been on leave of absence with the Navy.

While in the Army, Dr. Smith spent most of his time in the field of physiology. As head of that department with the Eighth Air Force, he worked on field research in aviation physiology, dealing with problems of anoxia and oxygen equipment, cold, high altitude, frostbite, and fatigue.

Dr. Smith served as Chief of the Medical Safety Division of the Office of Flying Safety with the Army in Winston-Salem, N.C., after his

return to this country from the Eighth Air Force Headquarters in England.

In that capacity he was concerned with medical problems in flying safety, medical aspects of injury and fatalities in flying accidents, carbon monoxide poisoning, and problems in pilot error.

A graduate of St. Louis University, medical school, Dr. Smith took graduate work at Northwestern University, where he received an M.S. degree in Pathology and a Ph.D. degree in Physiology.

Dr. Smith served for a year as an assistant in Pathology at Cook County hospital. He was an assistant instructor in the department of Clinical Pathology at the University of Illinois medical school, and also did research and teaching at Northwestern medical school before entering the Army in 1941.

THE ADMINISTRATIVE DETAILS OF THE ILLINOIS STATE MEDICAL SOCIETY PROGRAM FOR CARE OF VETERANS WITH SERVICE-CONNECTED DISABILITIES AT HOME BY PHYSICIAN OF CHOICE

As every member of the Illinois State Medical Society knows, the agreement between the Society and the Veterans Administration has been signed and every physician desiring to do so, may participate in this program to provide veterans with care at home for service-connected disabilities.

Each member of the Society has been sent a 5 x 8 record card and has been asked to fill it out and return it to the office of the secretary. These cards will be turned over to the Veterans Administration, and the physicians expressing willingness to work under this agreement, will be appointed as "designated physicians" of the Veterans' Administration.

In offering the veteran an opportunity to use his family doctor or a specalist in his home town with the government paying the bills, the program gives recognition to the age-old physician-patient relationship, and presents to the medical profession an opportunity to prove that private practice can handle this job.

Full cooperation of all our membership in giving medical care to veterans will aid in the decentralization plans of the Veterans Administration and will minimize the expansion of government hospital facilities and institutionalized medical care.

Administrative Details of the Plan. — The mechanics of this program are really simple. When a member of the Illinois State Society has returned his 5 x 8 record card to the office of the secretary, it is noted in his office, and the card forwarded to the Regional Office, Veterans Administration, 366 W. Adams Street, Chicago. The Veterans Administration will issue an appointment to each physician, and will send him a supply of forms to be used.

ONLY VETERANS WITH SERVICE-CONNECTED DISABILITIES ARE ELIGIBLE TO RECEIVE MEDICAL CARE AT THE EXPENSE OF THE VETERANS ADMINISTRATION.

Exception: Ex-Service women are eligible for out-patient treatment for service-connected disabilities only; *however, hospital care for this class of beneficiaries may be authorized in private hospitals, under contract, for either service or non-service connected conditions.*

ONLY PHYSICIANS WHOSE NAMES ARE ON THE LIST OF FEE-DESIGNATED PHYSICIANS OF THE VETERANS ADMINISTRATION WILL BE ELIGIBLE FOR REIMBURSEMENT BY THE VETERANS ADMINISTRATION FOR SERVICES RENDERED AN ELIGIBLE VETERAN, EXCEPT IN EMERGENCIES (See paragraph "Emergency Treatment".)

Applying For Authorization. — When a veteran applies direct to a designated physician for treatment, the physician must submit the request for authority to treat the veteran to the regional office. APPROVAL IS MANDATORY. (Form 2690) AILMENT MUST BE SERVICE CONNECTED.

1. Routine approval for non-emergent illness should be secured before any work is done. A supply of Form 2690 will be sent each designated physician.

2. Out-patient emergencies should be treated and Form 2690 filed within FIVE DAYS.

3. Hospital emergencies should be treated and Form 2690 filed within 72 hours. (A phone call to The Medical Director (Dearborn 7500),Chicago Regional Office - Veterans Administration, 366 West Adams Street, Chicago 6, Illinois, will secure information relative to service-connection

of the ailment, and will give the physician information as to what procedure to follow.)

The Veterans' Administration office upon receiving the request for treatment will advise the physicians as to whether or not treatment is authorized and will submit any other information that may be deemed helpful to the physician.

At present all requests for authorization should be addressed to the Regional Office in Chicago except when the applicant resides in the cities of Rockford, Springfield and East St. Louis. In these cities the requests may be addressed to the sub-regional offices direct, and the addresses are as follows:

Rockford: 301-305 South Main Street
Springfield: 410 East Monroe Street
East St. Louis: 435 Missouri Avenue.

As soon as possible other sub-regional offices will be opened, and eventually the entire state of Illinois will be serviced through regional area offices as the members of the Veterans Administration are able to decentralize and distribute case histories and records.

Submission of Physician's Statement. — A physician who has rendered service in an authorized case should submit his statement for services rendered to the Regional Office where the treatment was authorized. Payment will be made direct to the physician by the Veterans' Administration.

What is Emergency Treatment? — When a veteran requires emergency treatment he should be treated immediately by the physician selected or called.

If the physician wishes to ascertain whether or not the Veterans' Administration will assume responsibility, a telephone call should be made by the physician to the Veterans' Administration office in the area nearest the physician's office. (Chicago except for Rockford, East St. Louis and Springfield). The physician will be advised as to what procedure to follow.

What Out-Patient Service Includes. — This program for out-patient care of ELIGIBLE veterans includes: Examinations and Treatments in the physician's office, in the veteran's home, and in a private hospital which has contracted with the Veterans Administration to provide hospital service for veterans with service-connected disabilities.

At the discretion of the Veterans Administration, veterans with certain types of disabilities may be requested to report to a veterans Administration hospital for treatment.

Prescriptions to be written. — The following information is issued to physicians relative to prescription services for eligible veterans and to relieve Veterans Administration pharmacy activities of the heavy burden imposed by the volume of prescriptions of designated physicians.

The Veterans Administration and the Illinois Pharmaceutical Association have entered into an agreement similar to that now enjoyed by the Illinois State Medical Society and the Veterans Administration. Their procedure is as follows:

1. Physicians may write prescriptions for eligible veterans on their regular prescription blanks. Whenever possible physicians should include the veteran's "C number" on the face of such prescriptions.

2. All prescriptions must be dated the day written and this date must be within the period of authorization to treat the specified beneficiary.

3. The physician must sign his name on the back of such prescription, over the statement: "I am authorized to treat and prescribe for the above-named Veterans Administration patient." This statement (but not the signature) may be printed, rubber stamped, typed, or written.

4. This signed statement of authorization, which may be made ONLY BY A DESIGNATED PHYSICIAN, for a veteran authorized to be treated for a SERVICE-CONNECTED disability, constitutes authorization to any participating pharmacy to fill such prescriptions within ten (10) days of the date written, and receive reimbursement from the Veterans Administration.

5. All prescriptions or copies of prescriptions for eligible Veterans Administration beneficiaries will be sent by the participating pharmacies to their state association monthly. The Association will forward all such prescriptions to the Regional Office for payment.

We present a Hypothetical Case. — For your information and to illustrate the use of V.A.F. forms, we will present here a hypothetical case to be of whatever assistance possible, in explaining how the necessary "paper" work will be carried out.

Veterans Administration
Medical Form 2690
Rev. July 1938

REQUEST FOR AUTHORITY FOR TREATMENT

Chicago, Illinois (Place) July 23, 1946 (Date)

To Chief Medical Officer,
Veterans Administration
366 West Adams Street
Chicago 6, Illinois
(Location of office)

JONES, John D. (Name of beneficiary) 3-397 399 79 (C-number)

1346 S. River Road, Chicago
(Address of beneficiary)

I—REQUEST TO BEGIN TREATMENT

1. The above named applied to me 7-23-46 (Date) requesting out-patient treatment.
2. *This applicant has never before been treated by me. He exhibited Certificate of Discharge (certificate of discharge; other papers) indicating that he was enlisted 5-3-42 (date) and was discharged honorably (honorably; not dishonorably; for disability) on 7-11-45 (date) and that his organization was 101st Airborne Infantry (specify) and rank T/Sgt. (specify)
*This applicant last received authorized treatment from me on or about _____ (date)
3. *His complaints were* *Chills and fever*
My clinical findings were — Temperature — 103

My present diagnosis is Malaria

4. His condition *(was) (was not) medically emergent. He is *(able) (not able) to report at my office. Hospitalization *(is) (is not) indicated at present.
5. *I rendered no treatment. *I rendered emergency treatment, as follows:
Quinine Sulfate
6. *I recommend _____ (number) treatments. *I request authorization to cover my emergency treatment, and 2 (number) additional treatments.

Joseph Doe, M. D., M. D.
(Signature of Physician)

*Delete inapplicable words.

Form 7522 (AUTHORIZATION FOR FURNISHING MEDICAL OR DENTAL SERVICE) will be sent to you by the Regional Office as follows:

VETERANS ADMINISTRATION
AUTHORIZATION FOR FURNISHING MEDICAL OR DENTAL SERVICE

DATE: July 25, 1946

FROM: ORIGINATING OFFICE
Regional Office - Veterans Administration
366 West Adams Street,
Chicago 6, Illinois

TO:
Dr. Joseph Doe
1000 Blank Street
Chicago, Illinois

SEE INSTRUCTIONS ON REVERSE SIDE

SERVICE TO BE FURNISHED TO

NAME	C-NUMBER
JONES, John D.	3 397 399 79
ADDRESS (SERVICE OR DEPTAL NO.)	
1400 River Road	
CITY / STATE	DATE OF CLAIM / TYPE WAR
Chicago, Illinois	II
TYPE DISCH. OR SERVICE	DATE OF ENL. / DATE DISCH'D.
Hon. Inf.	5/3/42 / 7/11/45
DATE OF BIRTH / PLACE OF BIRTH	

YOU ARE AUTHORIZED TO FURNISH THE FOLLOWING SERVICE TO THE ABOVE-NAMED VETERAN

- ☐ PHYSICAL EXAMINATION
- ☐ ORAL EXAMINATION
- ☐ OTHER
- ☐ OUT-PATIENT DENTAL TREATMENT
- ☒ OUT-PATIENT MEDICAL TREATMENT
- ☐ HOSPITALIZATION
- ☐ DOMICILIARY CARE
- ☐ OBSERVATION

- ☐ THE ABOVE-NAMED VETERAN WILL REPORT FOR SERVICE ON OR ABOUT _____ 19___
- ☐ YOU ARE REQUESTED TO NOTIFY THE ABOVE-NAMED VETERAN WHEN TO REPORT
- ☐ ABOVE-NAMED VETERAN HAS BEEN INSTRUCTED TO CONTACT YOU FOR APPOINTMENT

NATURE OF SERVICE AUTHORIZED: HISTORY AND DIAGNOSIS

Medical treatment for: MALARIA. In accordance with your request of July 23, 1946.

ONE (1) Emergency Office Treatment. (Formal authorization of emergency office treatment rendered July 23, 1946, received this office July 24, 1946)

TWO (2) Additional Office Treatments for: MALARIA

Authorized to a Designated Physician for the reason there is no Salaried Physician available.

PLEASE SUBMIT YOUR BILL IN DUPLICATE

FEE-BASIS TREATMENT MUST BE LIMITED TO THE ABOVE-AUTHORIZED SERVICE. PRIOR AUTHORITY MUST BE REQUESTED FOR ANY ADDITIONAL SERVICE

CLASS OF BENEFICIARY	CLASS OF DENTAL EXAMINATION OR TREATMENT
V.A. Svc.Ltrs of 9/19/45 & 11/20/45	
NO. OF TREATMENTS AUTHORIZED	PERIOD COVERED BY THE AUTHORIZATION
SEE ABOVE CONFIRMATION	7/23/46 to 7/31/46
FEE AUTHORIZED	THE FOLLOWING PAPERS ARE ENCLOSED
$2.00 per Office Treatment	Forms 2577, 2690, & 2690a
FOR OFFICE USE	SIGNATURE AND TITLE OF AUTHORIZING OFFICER
3670100.001 7 SE R 3208 0155-6000	SAMPLE: C. H. Ogden, M.D. Acting Asst. Chief Medical Officer.

V A FORM APR 1946 **7522** TEST FORM SUPERSEDES 2639, 2661, 2663, 2590, 2557, 2513

As the designated physician in the case, your REPORT OF TREATMENTS RENDERED must be filled out and returned to the Veterans Administration on Form 2690 as follows:

VETERANS ADMINISTRATION
Medical Form 2690a
Rev. Sept. 1945

REPORT OF TREATMENTS RENDERED

To CHIEF MEDICAL OFFICER,
366 W. Adams Street
Chicago, Illinois
(Location of office)

Chicago, Illinois (Place) July 31, 1946 (Date)
JONES, John D. (Name of beneficiary) 3 397 399 79 (C-number)
1400 River Road
(Address of beneficiary)

I report that treatment authorized was rendered the above-named beneficiary, during the period from 7/23/46 to 7/31/46, as follows:

DATE	H	O	COMPLAINTS	CLINICAL FINDINGS	TREATMENT
7/23		x	Chills & fever	Temperature 103	Quinine Sulfate
7/24		x	Chills & fever	Temperature 100	Quinine Sulfate
7/26		x	Chills & fever	Temperature 100	Quinine Sulfate

15—686

DIAGNOSIS:
Hospitalization (~~is~~) (is not) indicated at this time.
His condition is (~~stationary~~) (progressive) (~~improved~~).

Additional treatment during August (Period of time) (is) (~~is not~~) indicated.

JOSEPH DOE, M.D.
(Signature of physician)

I was treated by Dr. ..... on the following date or dates:
(After each treatment the date thereof will be inserted and the beneficiary will acknowledge same by his signature. Use space on back of form, if necessary)

Date *Signature of Beneficiary* *Date* *Signature of Beneficiary*

(SIGNATURES ARE NOT NECESSARY)

At the present time if a veteran is on continuous treatment, request form 2690 should be mailed in to the Veterans' Administration on the 23 of each month if it is anticipated that treatment will be required during the following month. This is necessary in order that the authority may be in your possession at the beginning of the calendar month. Authority to render treatment CANNOT BE ISSUED EXCEPT FOR THE CALENDAR MONTH AND MUST BE RENEWED EACH MONTH.

The reverse side of Form 2690 should be used, in the simplified form, for the renewals, as follows:

II. REQUEST TO CONTINUE TREATMENT

Your authorization for treatment of the *(beneficiary) (beneficiaries) named below *(expires) (expired) July 31, 1946. I recommend the following additional treatments:

Names	C-No.	Visits H	Visits O
			2
JONES, John D.	3 397 399 79		

*Delete inapplicable words

Joseph Doe, M.D.

As the attending physician for John D. Jones, your statement for his care should be submitted to the Veterans'Administration at the end of the month for the authorized care as follows: SUBMIT BILL IN DUPLICATE.

Chicago, Illinois, July 31, 1946

Veterans Administration
366 West Adams Street, Chicago, Illinois

Joseph Doe, M.D.
1000 Blank Street
Chicago, Illinois

For Professional Services:

John D. Jones, C-No. 3 397 399 79

Three office treatments for Malaria rendered on July 23, 24, 26.....$6.00

Odds and Ends of Information. — If the examination to be given a veteran is for pension purposes, a brief summary on Form 2507-a will be furnished you by the Veterans' Administration. This examination is for rating purposes and a report is to be made on Form 2545 which will be furnished you for that purpose. Only one copy is to be submitted.

If a $3.00 routine office examination is authorized as covered in Item 21 of the Fee Schedule approved by the Illinois State Medical Society and the Veterans Administration, the report may be in narrative form. If treatment is then recommended, the nature of the proposed therapy should be explained in detail as well as the number of treatments that will probably be required and whether these treatments will be office calls or home visits.

It is to be stressed that *Service-Connection is determined solely by the adjudication of the Veterans Administration.*

Veterans receiving VOCATIONAL TRAINING UNDER PUBLIC 16, 78th Congress, may be furnished treatment for any condition medically determined necessary to prevent interruption of his training.

Veterans receiving VOCATIONAL TRAINING UNDER PUBLIC 346 may be treated for SERVICE-CONNECTED DISABILITIES ONLY.

If a veteran is known to have a disciplinary discharge from a veterans hospital within ninety days, it should be reported, as that may affect his eligibility for out-patient treatment.

DESIGNATED PHYSICIANS MAY RECEIVE REQUESTS FOR HOSPITALIZATION FROM THE VETERAN OR HIS REPRESENTATIVE. IN PROCESSING THESE REQUESTS THE PHYSICIAN MAY CONTACT THE VETERANS' ADMINISTRATION FOR APPROVAL BY WIRE OR BY TELEPHONE, OR BY USE OF THE FORMS AS EXPLAINED BEFORE.

Don't forget that authorizations to furnish treatment are specific and *expire at the end of the calendar month.* An authority for an office treatment does not permit a billing for a home visit. If the veteran is unable to report to the physician's office another request will be required for the home visit.

The Veterans' Administration will issue all authorities in accordance with the approved fee schedule. When a designated physician believes that the veteran is in need of a specific type of therapy which warrants a fee in excess of the schedule, full details must be furnished. Consideration will be given to such requests, provid-

ing the fees indicated are not in excess of those normally charged to the general public.

The Advisory Committee set up by the State Medical Society will review these cases and cooperate with the physician and the Veterans Administration in determining a fair and adequate payment.

We have asked for the cooperation of all members of the Illinois State Medical Society in order to provide the type of medical care our veterans should receive — at home, and by the physician of individual choice.

A constructive step forward can be taken by the medical profesion, and an actual contribution made by each physician toward the integrity and maintenance of the age old traditions in medicine — the physician-patient relationship we have so long maintained.

ILLINOIS STUDY OF CHILD HEALTH SERVICES: ORGANIZATION AND METHODS

Wars, as a rule, produce only few constructive results. One benificial effect of our recent war experience is the stimulation of interest in the health and fitness of our children. The rejection of many young men and women as unfit for service with the armed forces, serves as a measure of the general fitness of our young people. Many of these rejectees had remediable handicaps and diseases for which they had not sought medical care from the profession. This situation along with proposed legislation for medical care prompted the American Academy of Pediatrics in November 1944 to adopt the following objective; "To make available to all mothers and children of the U. S. all essential preventive, diagnostic and curative medical services of high quality, which used in cooperation with other services for children will make this country an ideal place for children to grow into responsible citizens." The Academy recognizes that the planning for medical care, unquestionably must rest on the physicians themselves. As physicians, we know what constitutes good medical care and we are largely responsible for providing that care. The pediatricians and general practitioners, as well as many other groups and individuals, are aware of the fact that if our children are to receive the care they need in the post-war period, sound and systematic planning must take place.

Unfortunately, data needed as a basis for this planning are incomplete, scattered and in some fields, almost totaly lacking. For this reason the Academy has initiated the job of obtaining the needed information and has requested the assistance of all practicing physicians and dentists, as well as the assistance of all organizations, caring for children. The Academy Study is being conducted through established channels of organized medicine and allied groups. This is the first step then to achieve the stated objective. Preliminary announcement of the Illinois Study of Child Health Services has been made in this journal.[1]

The second step will be the use of the tabulated study data by county and local Study Chairman from County and Branch Medical Societies with local representatives from other professional, service and lay organizations. After reviewing this data the local Study Chairman and his Study Committee are asked to formulate their recommendations for any desirable expansion of their local child health services. These recommendations will be forwarded to the Illinois Study Committee, which has been appointed by the Illinois State Medical Society and the Illinois State Dental Society. The final recommendations of the Illinois Study Committee will in turn be sent to the American Academy of Pediatrics and to the Illinois Study Advisory Committee to implement feasible recommendations.

The Illinois Study has been set up, therefore, so that ways will be established not only to obtain necessary comprehensive data in step one, but to use such data in step two as a realistic and sound basis for feasible expansion of child health services.

The degree of success in achieving the objective rests not only upon the pediatricians but upon the cooperation of all other professional service and lay groups at each level. This coordination of effort calls for strong and sustained medical leadership. It calls for an acceptable approach in community relationships and in the use of the proper group methods in this leadership. It calls for application of the Golden Rule as well as the application of the Baconian scientific principles. Effective community

1. Ill. Med. Jl., Vol. 90, Aug., 1946.

planning for child health care consists in having representation of all interested groups at each level. At the proper time then, the scientific method can be applied to the problem as follows: joint participation in collecting the initial data, in analyzing the final, tabulated data; in making desirable recommendations on the basis of the previous two steps; and finally in carrying out feasible recommendations.

The organization and relationship of the several units in the Illinois Study of Child Health Services and routings of the several phases of the Study are presented in Chart 1.

Phase I. (———) Represents the initiation and conduct of the Study from the Academy to the Central Study Office in informing the State of the Study and in collecting the raw data from all concerned. Units 1, 2, 3, 4, 5, 6, 7.

Phase II. (.....) Represents routings of completed, final data from the Central Study Office to the local communities for their analysis. Units 7, 6, 2, 3, 4, 5.

Phase III. (—.—.—.) Represents the routings of local recommendations for desirable expansion of their child health services to the Study Committee. Units 5, 4, 3, 2, 1.

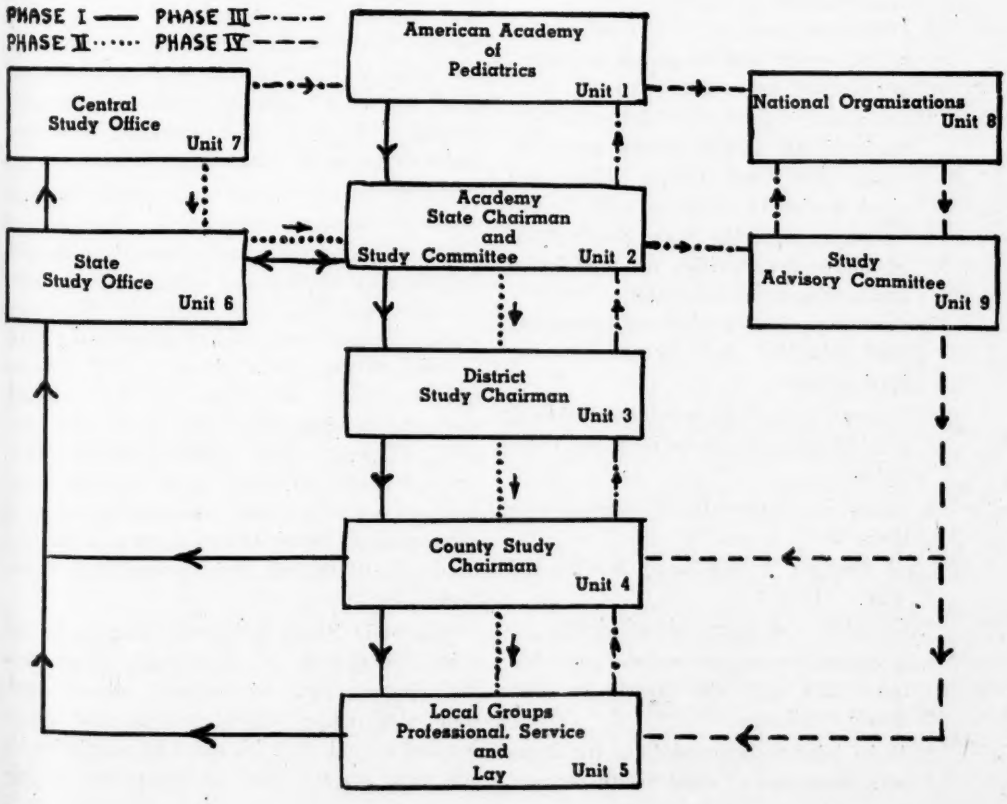
Phase IV. (— — — —) Represents the routings of action taken to implement feasible recommendations. Unit 1, 8, 9, 4, 5.

The functions of the various units in the organization of the Illinois Study are as follows:

a) Academy State Chairman and Study Committee. (Unit 2)
   1. Initiates the Study.
   2. Supervises the Study.
   3. Makes Study policies.
   4. Makes recommendations at State level.

b) Study Advisory Committee. (Unit 9)
   1. Interpret and publicize the Study.
   2. Coordinate activities of the local units of each organization with the County Study Chairman.
   3. Implement recommendations of the Study Committee.

CHART 1


PHASE I —— PHASE III —·—·—
PHASE II ····· PHASE IV — — —
American Academy of Pediatrics Unit 1
Central Study Office Unit 7
National Organizations Unit 8
Academy State Chairman and Study Committee Unit 2
State Study Office Unit 6
Study Advisory Committee Unit 9
District Study Chairman Unit 3
County Study Chairman Unit 4
Local Groups Professional, Service and Lay Unit 5

c) State Study Office. (Unit 6)
1. Initiate and organize the Study in the State.
2. Interpret and publicize the Study
3. Distribute, collect, check and forward to the Central Office, all schedules for tabulation.
4. Obtain data on Series I schedules.
5. Forward tabulated statistics to local Study Chairman and communities.
6. Collect local recommendations from local Study Chairmen and communities, and forward to Study Committee.
7. Make State Study report.

d) District Study Chairman. (Unit 3)
1. Appoint County, Branch Society and local Study Chairmen.
2. Interpret and publicize the Study to local Study Chairmen and various groups.
3. Assist in coordinating the Study in the District.

e) County, Branch Society and Local Chairmen. (Unit 4)
1. Interpret and publicize the Study
2. Obtain cooperation with local professional, service and lay groups in obtaining comprehensive data.
3. Coordinate Study activities with professional and service groups and work closely with local Health Officer and check Series II schedules with him.
4. Cooperate with the State Study Office in follow-up activities for completion and return of all schedules.
5. Coordinate local analysis of completed, final tabulated data by participating local groups.
6. Forward joint recommendations of local participating groups to the Study Committee.
7. Assist in implementing recommendations.

f) Local Groups: Professional, Service and Lay. (Unit 5)
1. Complete and return all schedules.
2. Evaluate jointly, completed final tabulated data with the County or local Study Chairman.
3. Make joint recommendations for desirable expansion of child health services.
4. Assist in implementing final recommendations that are feasible.

The following Study methods were devised by the Central Study Office and were tested and adjusted during the pilot study in North Carolina in 1945.

Field workers of the Illinois Study office are responsible for collecting data from all hospitals, sanatoriums and related institutions. These Series I schedules are as follows: I-A. (Information on pediatric hospitals, general hospitals and other hospitals with maternity facilities.) I-D. (Supplementary information on General, Pediatric and Maternity Hospitals with 25 or more beds.) I-E. (Nervous and Mental Hospitals, Including Institutions for Feeble-minded.) I-F. (Tuberculosis Hospitals; Sanatoriums and Preventoriums admitting Tubercular Patients.) I-G. Convalescent and Chronic Hospitals, Rest Homes and Nursing Homes.) I-H. Contagious Disease Hospitals) I-J. (Orthopedic Hospitals).

Pediatricians or other qualified physicians are responsible for visiting assigned hospitals to obtain information on Schedule I-D. As far as possible pediatricians will be assigned to hospitals where they are not staff members so as to obtain the most objective evaluation possible. Schedule I-D. will, when completed, be sent by pediatricians to the State Study Office.

Health Officers of local health jurisdictions are asked to complete Schedule II, (Summary of Community Services.) and to distribute and collect from all officials and voluntary community agencies, the completed following Schedules; II-A. (Medical well-child Conferences); II-B. (Dental Services for Children); II-C. (Mental hygiene services for children); II-D. (Health services for physically handicapped children); II-E. (Communicable disease control); II-F. (School health services); II-G. (Public health nursing services). The local health officer is asked to check Series II Schedules with the local Study Chairman and then forward them to the State office.

The State Study Office will mail Series III Schedules directly to physicians, pediatricians and dentists with an enclosed self-addressed, stamped envelope. Each physician and dentist is asked to contribute his share by completing his one page schedule and returning the schedule

to the Study Office. It is realized that due to present unsettled conditions or errors, some physicians will not appear on our mailing list. Any physician who does not receive a schedule, is urgently requested to contact the Illinois Study of Child Health Services, 1465 Sherman Ave., Evanston, Ill.

Physicians and dentists who will receive schedule III-A (Physicians in private practice) and III-C (Dentists in private practice) respectively are asked to indicate their data only for the day stamped on each schedule. This one-day record question is asked for the specific purpose of determining how many physcians and dentists care for how many children in a given area. It is a means of determining the case-loads of physicians and dentists in a specific area. It is *not* being asked in order to determine the size of the practice of individual physicians and dentists, but rather to determine the over-all picture of medical activities in one area, over a representative period of time. If each doctor or dentist were left to choose the one day on which he wished to report, the chances are, human nature being what it is, he would choose his busiest day.

The result would obviously not be a true picture of the normal amount of medical and dental service rendered. Therefore, in order to take into account the atypical as well as the typical days, each physician and dentist is asked to report for a specified day. Thus, supposing that there are 700 doctors practicing in a certain city, when the questionnaires are sent out, 100 of them marked "Monday", another 100 "Tuesday", and so on throughout the whole week, by this method we have 1/7 of all the physicians and dentists reporting for each day of the week. The indentity of any one man becomes lost in the over-all picture, so that Dr. Z. who is asked to report on Wednesday, which happens to be the day he is attending a meeting, need not be concerned that the day specified is not typical of his practice. Emphasis is placed on the fact that the Study procedures for collecting data are so arranged that the indentities of the individuals are lost.

The organization and methods here portrayed for the Illinois Study of Child Health Services indicate the magnitude of the task the Academy has initiated and the importance of this work to all professional, service and lay organizations, as well as to every individual in the State. If changes in the medical care of children are desirable, such changes can best be established in an evolutionary way using familiar and established, democratic and scientific principles in effecting such changes. The Academy and this Society asks for and expects your wholehearted cooperation.

ARMY PHYSICAL RECORDS POINT TO DANGER OF OVERWEIGHT

Overweight, emotional elevations of the blood pressure and acceleration of the heart beat are the forerunners of serious illness, according to four investigators writing in the July 20 issue of *The Journal of the American Medical Association.*

The investigators, Robert L. Levy, M.D., of New York, Paul D. White, M.D., of Boston, William D. Stroud, M.D., of Philadelphia and Brig. Gen. Charles C. Hillman, United States Army, studied the medical records of 22,741 army officers which contained the results of annual physical examinations made between January 1924 and December 1941.

The authors predict from their study that overweight associated with the temporary elevations of blood pressure and rapid heart beat will lead eventually to the development of high blood pressure and diseases involving the heart, blood vessels and kidneys.

A group of men who during the period of study showed none of the predisposing factors were observed in comparison. The study reveals that the later development of high blood pressure was 12 times as great in the overweight group as in the comparison group. In the case of retirement from duty because of diseases involving the heart, blood vessels and kidneys, the rate was four times as great.

State Department of Public Health

NEW WEAPONS IN TUBERCULOSIS CONTROL

Fifty-one years ago x-ray was a new discovery, limited in efficiency, but abounding in potentialities in the medical field. Today, in the form of mobile x-ray units, this device is now being used by the State of Illinois as a very practical means of finding tuberculosis in its early stages.

On January 10, 1946, the State Department of Public Health accepted delivery of the first of four mobile x-ray units. The second was delivered in February and two more will be forthcoming within the near future. Each of these units, designed for mass x-raying of chests, is in effect a complete x-ray laboratory mounted on a 1½ ton truck. Electrical power is provided by trailer generators which enable them to operate in the most remote areas of the State. The photo-roentgen equipment produces 4 x 5 inch films and is capable of taking 200 to 300 pictures a day; serious consideration is now being given to changing the film to a 70 mm. type which will increase the capacity of these units even beyond this point. "On the spot" development of films is made possible by the inclusion of water tanks and a dark room in the construction of these mobile laboratories.

Under the administration of the Division of Tuberculosis Control, the operation of each unit requires a staff of four individuals — a public health nurse in charge, an x-ray technician, a clerk and a maintenance operator. Coordination of the activities of all units is accomplished through periodic staff meetings at Division headquarters.

The acquisition of this technical equipment, we believe, is a preliminary, forward step in the development of a much needed, long range tuberculosis control program. It is true that experience in Illinois during the past 45 years has paralleled to some degree that of other areas as shown by the 70% decrease in tuberculosis mortality. Gratifying as this may be, this reduction has not been as rapid as for the entire country in which a 75% reduction has taken place. Even more significant, our decline has not been as rapid here as in several states where the problems of control are considerably more complex. Massachusetts, for example, with the most highly urbanized population in the country reports a 41% reduction in the tuberculosis death rate between 1930 and 1940. New York with 35%, Pennsylvania with 31%, New Jersey with 36% and California with 45% are some of a fairly large group of states where a more favorable situation exists. The reduction in Illinois during that time amounted to only 26%.

The term, "preliminary step," in the foregoing paragraph is significant, for a modern tuberculosis control program includes other measures of equal importance. Adequate treatment facilities, vocational rehabilitation during convalescence and aid to families of wage earners stricken with the disease are problems directly affecting a successful program. As to the first, it is estimated that 2800 more beds are needed in Illinois to provide adequate treatment facilities. This problem was solved in part by the 64th General Assembly which appropriated $4,000,000 for the construction of several State sanatoria. Progress has already been made as to the selection of strategic sites for these institutions. *It is hoped that within the next two or* three years their construction will near comple-

tion. The questions concerning vocational rehabilitation and aid to wage earners' families are as yet unanswered but certainly these problems are not impossible of solution. Again we look with hope to the future.

Sound as these other measures are, however, their success will depend upon an active and extensive case finding program which will discover tuberculosis in its minimal stages — *then* is when treatment is effective; *then* is when the individual's rehabilitation program can be initiated early; *then* is when the loss of wages will be the least; *then is when isolation can best prevent spread.* Mass x-rays among the population, therefore, is the first and most logical project that must be developed if the symptomless, early cases are to be discovered. The mobile x-ray units were acquired for just this purpose.

The Department has already received numerous requests for x-ray surveys from various organizations. Efforts are being made to group such requests so that in a given county all of them may be fulfilled at one time by a county-wide x-ray survey. Consequently, agencies requesting the facilities of the mobile x-ray units are urged to use the following suggestions:

1. Any individual or organization may initiate a request for a mass x-ray survey program.
2. Requests for the use of the mobile x-ray units of the Department of Public Health should be made through the full-time city, county, or district health officer.
3. Other local organizations, industries, etc., should be contacted early in the planning so that the approximate number of persons to be x-rayed will be known in advance and the dates for the unit scheduled accordingly.
4. Upon receiving a request the Health Officer would plan jointly with the Tuberculosis Association, the sanitarium board, and the local Medical Society to insure complete understanding of the responsibilities involved.
5. An assurance of at least 4,000 or 20% of the adult population in the county should be had before forwarding the request to the Division of Tuberculosis Control. (A minimum of 20% of the adult population seems necessary as an adequate control measure.)
6. Provisions for rechecks of designated persons at needed intervals and hospitalization if indicated should be made locally.
7. The eligible group for x-ray will include any positive reactors to the tuberculin test among high school students and the entire adult population. (Children under 15 are not routinely x-rayed.)
8. A publicity campaign is essential to the success of the survey. Publicity materials such as posters and pamphlets available from the Department of Public Health may be secured through the county or district health officer. It is suggested that additional materials be developed locally to be used in the health education program preceding the x-raying. All publicity should be approved by a committee representing the cooperating agencies.
9. Certain essential facts concerning the program bear emphasis:
   a. X-ray takes only a minute.
   b. X-ray can be done with clothes on.
   c. A report is sent directly to the individual.

Following the reading of films, individuals with negative findings are informed of these results by printed cards mailed to their residences. Persons whose films show evidences of tuberculosis or other pathology are requested by letter to visit their family physicians. The findings and even films will be mailed to the physician upon written request and the patient's consent. This procedure, of course, will not insure that all in need of medical attention will seek the proper advice. Because of this, a follow-up service must be arranged through some agency — the Sanitarium Board, the Tuberculosis Association or the Local Health Department. The trained representatives of these groups can do much to educate and persuade the ignorant, the fearful and the hesitant to see the benefits of further observation.

Thus a new weapon, the mobile x-ray unit, has been brought into the fight against tuberculosis. Added to the facilities and the interested workers already engaged in that fight, the fifty-one year old invention, now on wheels, can do much to help the many who are unknowingly infected. Equally important, it will uncover those who are innocently spreading the disease. By its use we in Illinois hope that the downward course in tuberculosis case and death rates can be hastened. Our place should be among the leading, not the lagging, states.

Correspondence

CLINICAL CONGRESS, AMERICAN COLLEGE OF SURGEONS, SCHEDULED FOR CLEVELAND, DECEMBER 16-20

The thirty-second Clinical Congress of the American College of Surgeons, originally scheduled for New York from September 9 to 13 but postponed because of overlapping with the United Nations Assembly, will be held in Cleveland, with headquarters at the Cleveland Public Auditorium, from December 16 to 20. This will be the first annual meeting of the College since November, 1941.

The opening session of the Congress in Cleveland will be the Hospital Standardization Conference on Monday morning, December 16, at 10 o'clock, at which Dr. W. Edward Gallie of Toronto, President of the College, will preside. Talks by medical and hospital authorities on advances in medicine and surgery as they affect the postwar hospital will be given. The hospital conferences will continue each morning and afternoon through Thursday, with evening sessions on Tuesday and Wednesday.

Panel discussions on the following subjects are planned for afternoons from Monday through Friday: Rehabilitation of the Surgical Patient and Early Ambulation; Treatment of Cancer of the large bowel; Thiouracil in Thyroid Disease; Recent Trends in Management of Carcinoma of the Cervix; Anesthesia; Protein Metabolism in the Surgical Patient; Spinal Cord Injuries; Surgery of the Stomach; Surgery of the Vascular System. Some of the panels will begin at 1:30; the others at 3:30 o'clock.

Panel discussions in the field of Ophthalmology will be held at 11:00 o'clock Tuesday through Thursday mornings on the following subjects: Tuesday, Retinal Detachment; Wednesday, Glaucoma; Thursday, Keratoplasty. Panel discussions in the field of Otorhinolaryngology will be held at 11:00 o'clock Tuesday through Thursday mornings on the following subjects: Tuesday, Treatment of Menier's Syndrome; Wednesday, Osteomyelitis of the Skull; Thursday, Rehabilitation of War Deafness.

Forums on Fundamental Surgical Problems will be conducted Tuesday through Friday mornings. The purpose of these forums is to present the best that is new in surgery. Dr. Owen H. Wangesteen of Minneapolis is chairman of the committee in charge.

A Symposium on Fractures and other Traumas will be held on Tuesday afternoon and a Symposium on Cancer on Wednesday afternoon. On Friday afternoon concurrent specialty panels are planned in the following fields: Orthopedic Surgery; Urology; Plastic Surgery; Neurological Surgery; Obstetrics; and Thoracic Surgery.

Also to be held daily throughout the Congress will be operative and nonoperative clinics and demonstrations in local hospitals.

The evening program will begin with the Presidental Meeting on Monday night. Three concurrent symposia will be held on Tuesday night on the following subjects: Care of the Patient before and after Operation; Orbital Reconstruction Including Prosthesis; and "Treatment of Deafness." Two concurrent symposia will be conducted on Wednesday night on the following subjects: Venous Thrombosis and Prevention of Pulmonary Embolism; Plastic Surgery of the Head and Neck. Three concurrent symposia will be held on Thursday night on the following subjects: Antibiotic and Chemotherapeutic Agents in Surgery; Ophthalmology (three

subjects); and Surgery of the Nasal Accessory Sinuses.

The concluding event of the Congress will be the Convocation on Friday night at which fellowships will be conferred upon candidates. The incoming president, Dr. Irvin Abell of Louisville, will preside. The number figuring in this ceremony will be much larger than usual owing to the fact that several hundred surgeons who were received into fellowship in absentia during the years in which no Convocation was held, will participate in the initiation ceremonies, in addition to the candidates of the current year. A large proportion of the new fellows are World War II veterans.

Annual meetings of Governors and Fellows will be held during the Congress. Other important features will be showings of medical motion pictures and extensive technical and educational exhibits.

NEW CHAIRMAN AT N. U. DEPT. OF PATHOLOGY

Dr. William B. Wartman, who served as a lieutenant colonel in the U.S. Army Medical corps during the war, has been appointed Morrison Professor of Pathology and chairman of that department in the Medical school of Northwestern University.

Dr. Wartman served on the staff of Western Reserve University from 1935-41, becoming pathologist in charge at the University hospitals in 1939. He was resident pathologist at the University of Pennsylvania hospitals from 1936-39.

A graduate of the University of Pennsylvania, he received the B.S. degree in 1929 and the M.D. degree in 1932 and served his internship at Lankenau hospital, Philadelphia.

TWO GROUPS JOIN FOR *TUBERCULOSIS PROGRAM*

A meeting of the Chicago Tuberculosis Society and the Illinois Chapter of the American College of Chest Physicians will be held Thursday, October 24, 1946 at the Bismark Hotel. Dinner will be served at 6:30 P.M. Election of Officers will be held. The Scientific Program will include a talk by Dr. Jay Arthur Myers of the University of Minneapolis. His subject will be, "Early Tuberculosis".

EDSON P. LICHTY MADE EXECUTIVE DI- RECTOR OF CHICAGO BLUE CROSS PLAN

Edson P. Lichty, who has served as assistant director in charge of enrollment of the Blue Cross Plan for Hospital Care in Chicago, since September, 1944, has just been elected executive director of that Plan.

Mr. Lichty is well qualified for his new post and has been in Blue Cross work during much of his business career. He resigned as director of Hospital Service, Inc., of Iowa, to come to the Chicago Plan. He had worked with the Iowa Plan from its inception in November, 1939. Previous to his assisting in the establishment of Blue Cross in Iowa, he was in charge of enrollment with the Associated Hospital Service of New York.

A fact which is not in dispute is that people intimately exposed to tuberculosis infection develop lung tuberculosis more frequently than those who are not so exposed. There is in this fact strong presumptive evidence for the belief that it is fresh infection from without which in many people is responsible for the final lung disease. Recent pathological studies have shown that many of the adult apical and sub-apical infections are in fact of exogenous origin. Whether an exogenous infection acts directly or by causing a breakdown of an old lung deposit is of academic interest only. What is of importance is that the sputum positive person is a danger to all ages and that no immunity in young people will stand repeated re-infections. Charles Cameron, M.D., NAPT Bull., Feb. 1946.

Original Articles

WAR AND DISEASE

RALPH H. MAJOR, M.D.
KANSAS CITY, KANSAS

Disease is one of the primary fates in shaping men's lives. Man, from the day of his birth to the day of his death, either battles disease by trying to prevent it, or, if unsuccessful in this, by trying to conquer it when it appears. Nations, which are aggregates of men, constantly carry on the same struggle. Disease has determined the migration of races, their colonial expansion, their geographical distribution. It has conquered armies, overthrown empires and changed the course of history. Historians, obsessed with the study of economic conditions, the growth of ideologies, the magic of gifted orators and the skill of military commanders, have often neglected completely the important role of epidemics and the effects of national malnutrition.

In times of peace, as well as of war, great epidemics have left their mark upon the history of states. The cause of the fall of the Roman Empire has engaged the attention of historians since the days of Gibbon. Many theories have been suggested and the causes probably were numerous. We are certain that two diseases, malaria and smallpox, played major roles in contributing to the downfall of that powerful empire.

At the beginning of the second century before Christ, malaria had spread far and wide throughout Italy. In some way Rome, however, had remained free from it. Cicero gave as a reason for this the foresight of Romulus, who built his city in a healthy location on the hills. A broader reason, however, is found in the sanitary arrangements of ancient Rome. The early settlers in Rome had built their homes on hills but also promptly drained the valleys, which were marshy. In the sixth century B.C., they built the famous Cloaca Maxima or Great Sewer, which not only kept the lowlands effectually drained but also carried off the sewage from the city. Twenty-seven centuries later, the Romans were still using it, although some supposedly modern American cities allowed their refuse to run in the street gutters.

Although Rome remained free of malaria, the neighboring countryside was not so fortunate. The poor peasant toiling in the Campagna, a region close to Rome, knew that after his day's labor was over, he was going home to have a chill. Many days he was too ill to work and his crops were not cared for. To add to his troubles there were wars and his fields were laid waste. The countryside lost its charm for the peasant. He left his plow in the furrow, turned his back on the fields, packed his belongings on his ox-cart and drove to Rome — not because of high wages and short hours, but to escape fever and famine.

This mass migration to the city led to congestion, idleness, sloth, corruption and vice. The rabble grew steadily and cried for "panem et circenses" (bread and circuses), following eagerly any demogogue who would promise them ease and comfort without work. The principle of dispossessing the thrifty and prosperous, whether by taxation or by plunder, became the popular crusade. Both Julius Caesar and Mark Antony

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Oration in Medicine, Illinois State Medical Society, May 14, 1946, Chicago.

knew well how to strike this popular chord. This rabble, which grew in numbers and in power, played a dominating role in the dissolution of Rome. And malaria had had a powerful influence in producing the rabble.

With the return of the victorius Roman army from Mesopotamia, a new and frightful pestilence appeared in the capital city. Marcus Aurelius Antoninus was then emperor, and the pestilence has been called by historians the Antonine Plague. The illustrious Galen was practising in Rome at the time and has left us an excellent description of the disease. Galen writes that the first symptom of the disease was a foul breath, then high fever and delirium. Presently a skin eruption appeared, consisting mainly of pustules, which soon were covered with scabs, giving the patient an aspect both terrifying and loathsome. Most physicians, I think, on reading this account, will agree that the disease Galen described was smallpox.

The toll in Rome was enormous. All day long, wagons, piled high with the dead, rattled over the cobble stones, while the streets themselves were filled with dead bodies and staggering, dying patients. The pestilence spread throughout all Italy and, according to Paulus Orosius, the country was so devastated that towns were left without inhabitants, and the fields, through lack of cultivation, became wildernesses. The army, confined to their barracks, suffered even more than the civilian population. Entire legions perished almost to the man.

In the midst of these calamities, the Germanic tribes invaded. Marcus Aurelius was obliged to raise a new army to meet the peril. Slaves and gladiators were drafted into the army, and new volunteers appeared from the outlying provinces. In Rome itself, no volunteers could be found, and the lazy, shiftless rabble hooted the gladiators as they marched away, complaining that the Emperor was robbing them of their pleasures.

This time Marcus Aurelius accomplished the seemingly impossible and drove the Germans out. But two years later the Teutonic tribes appeared again. Marcus Aurelius hastened to Vindobona, the modern Vienna, to meet the invaders. Here the great emperor himself was struck down by the pestilence. The great empire, leaderless against both disease and invaders, tottered to its fall.

It would be very interesting to speculate on the course of Roman history and of world history *if Rome had known that quinine could check* malaria or that vaccination would prevent smallpox.

As disease played such a role in the fall of Rome, so the fall of the Venetian Republic was caused quite as much by the constant incursions of bubonic plague as by the armed attacks of her warlike neighbors. A maritime state, her ships carried wares to and from the Levant, bringing back, as excess cargo, rats and bubonic plague. In 1629 Venice had a total population of 142,804; two years later an epidemic of plague took a toll of 94,136. This epidemic of 1631 was the last great visitation of the plague. The grateful city built as a thank offering for her deliverance the beautiful church of Santa Maria della Salute, which every visitor sees on the Grand Canal. Also, further down the canal, one sees the Church of St. Roch, built to receive the body of St. Roch, the plague saint, which had been carried off by stealth from Montpellier in 1485. Indeed, Venice shows in both art and architecture how closely her history is interwoven with that of bubonic plague.

In England the Black Death produced as great a revolution in the social and economic life of Britain as all the wars that hardy island has waged. The terrific toll the plague took among priests and higher ecclesiastics necessitated the filling of these depleted ranks by ill-trained and often ignorant peasants. These new priests had little respect for the prerogatives of the clergy but more concern for the lot of the common people from whence they had but recently come and with whom they had their closest ties. They were more interested in the problems of their own people than in the problems of Rome. As a result of this attitude they had a powerful influence upon the English Reformation.

But we do not have to go to Europe for examples of the role disease plays in history. On our own continent, such history repeats itself. There is no more fascinating puzzle in the history of the past then the puzzle of the Mayas. Here was a people whose ruined cities in Yucatan

and Guatemala reveal a race who were builders of large cities with enormous palaces and huge temples, as well as versed in agriculture, in the art of pottery-making, and in working with silver and wood. But even more astonishing than these was their knowledge of astronomy and their calculations of time. While the English speaking people of the past century believed mostly with Archbishop Ussher that the day of creation was 4004 B.C., the Mayans believed the world was millions of years old and that man first appeared on this earth several hundred thousand years ago. This ancient Mayan civilization bloomed, flowered and faded long before the arrival of Cortez.

The Mayans, according to their ancient chronicles, suffered from frequent epidemics of what they called "the black vomit", which has been identified with yellow fever. A very severe epidemic in 1454 nearly destroyed the race. The epidemics continued and the Mayans finally abandoned their cities and scattered over the country, seeking especially the highlands, which seemed free of this disease that infested the lowlands and especially the swampy land near the sea.

When Columbus landed at Hispaniola, the modern Haiti, in 1492, yellow fever was lurking on the island waiting for the Spaniards. Historians who accompanied Columbus on this second voyage to America write of a strange malady which attacked the Spaniards at Hispaniola and that "the sick became so yellow that they looked as if they had been tinted with a saffron dye". In 1502, the Spanish explorer, De Lares, landed at Hispaniola with 2500 men. In a few weeks more than 1000 had died of the strange yellow malady.

The Spaniards compelled the native Indians to slave in the gold mines and plantations. From 1508 to 1514, the number of inhabitants on the island fell from 60,000 to 14,000. The Spaniards then introduced African slaves to work on the island. The negroes, in spite of the physical hardships, lived, multiplied and soon outnumbered the whites and Indians. A century later, Hispaniola was an island of blacks and has remained so until this day, when more than 90% of the people are pure blooded negroes. The negroes survived because of their hardier physique and also because of their relative immunity to yellow fever, a fact stressed by all writers from the earliest period to the present. So, thanks to yellow fever, Haiti is a black rather than a Spanish or Indian republic.

The story of the Panama Canal has been told many times. De Lesseps failed to build the canal not because he did not have the knowledge, the energy and the technical skill but because he could not conquer yellow fever. When de Lesseps first visited Panama, a French resident warned him "If you try to build this canal, there will not be trees enough on the isthmus to make crosses for the graves of your laborers." De Lesseps persisted and more than 20,000 white men perished — the natives and blacks were not counted. Gorgas, by stamping out the mosquito, accomplished the task in which de Lesseps had failed. If the French had succeeded, the canal would have become a French possession — a fact that certainly would have left its impress on American history the past half century.

Dramatic as are the changes produced by disease during times of peace, the effects of disease in times of war are even more cataclysmal. Wars spread disease, and disease, in turn, destroys warriors. Epidemics in past wars have only too often destroyed armies and left nothing behind but a melancholy account of their progress. In some wars, epidemics, although they have destroyed thousands, have left some clue that enables later generations to conquer or to prevent them. In other wars we have the melancholy picture of the deaths to thousands which could have been prevented by the intelligent application of measures even then already known to medical science. This picture, unfortunately, appears with distressing frequency as we turn the pages of medical history.

The great plague of Athens was one of the most dramatic episodes in the history of civilization. Whether this was bubonic plague, as Francis Adams of Banchory, who was not only an eminent physician but an outstanding Greek scholar, asserted, or whether it was typhus fever or scarlet fever as others maintain, is beside the point. The Athens of Pericles presented a level of culture and intelligence never equalled, before or since. Within the walls of this city of some two hundred thousand, lived and worked the dramatists Aeschylus, Sophocles, Euripides, and Aristophanes; the philosophers Plato, Xenophon, and Anaxagoras; the sculptors Phidias,

Praxiteles, and Polygnotus, and the historian Thucydides. When the Spartan king, Archidamus, attacked Athens, Pericles followed what is called today a "scorched earth" policy. He withdrew all his soldiers and people from the outlying country into the walled city of Athens for protection. Athens was soon choked with refugees. There were no houses for the newcomers, the food supply was cut off, the proper disposal of refuse became impossible, the water supply became contaminated. Then, like a thunderbolt, appeared the plague with all those horrors so graphically described by Thucydides, an eye witness of the harrowing scenes.

The Spartan king prudently withdrew and attacked elsewhere. He feared the epidemic might spread into his own army, and he also wisely reckoned that the plague would destroy more Athenians than could the Spartans. According to some authorities, the first wave of the epidemic destroyed one-third of the inhabitants of Athens; according to others, two-thirds. After the first wave had subsided somewhat, Pericles sent an expedition to capture Potidaea and harass the Spartans from the rear. This expedition, if successful, would have changed the entire course of the war. Unfortunately, the men carried the seeds of the pestilence with them and even before the ships reached Potidaea, the disease broke out among the soldiers and the fleet was compelled to return to Athens. Pericles then planned another brilliant stroke. He sailed with his troops to Epidaurus, hoping to capture that city and again strike the Spartans from the rear. This expedition was also a dismal failure because, according to Plutarch, "the distemper which prevailed in his army broke all his measures, for it not only carried off his own men, but all that had intercourse with them."

Athens slowly went to her doom. While she was disintegrating, the plague struck down Pericles himself and no leader of equal ability arose to take his place. Finally, the Spartan admiral, Lysander, sailed into the harbor of Piraeus; the Spartans tore down the long walls of Athens to the merry tune of Spartan flutes, the young Spartan women danced gaily to the music while the Athenians filled the air with wails and lamentations. The Athenian Empire was humbled to the dust, never to rise again. The plague of Athens had played a catastrophic part in her defeat, and had left no clue to prevent similar catastrophes.

Unfortunatey, the historians of the Peloponnesian War — the war between Athens and Sparta — were not medical men. If Hippocrates, as well as Thucydides, had described the plague of Athens, there would probably be no uncertainty concerning the nature of this epidemic. Fortunately, some of the epidemics accompanying later wars were described by army surgeons with such accuracy and fidelity that the diagnosis is certain.

Few wars in history have lasted so long or have been more destructive of life and property than the Thirty Years War. This war, which began as a struggle between Protestants and Catholics, became in time a war in which the Protestants of Germany and Sweden were allied with Richelieu, the great Catholic prelate, in the struggle against Catholic Austria. This war was a "total war" in the modern sense. Far more civilians — men, women and children — were destroyed than soldiers. Germany, according to some authorities, lost one-half of her entire population; according to others, two-thirds. A century and a half passed before the population of Germany reached its pre-war level.

The Thirty Years War is commonly divided by historians into the Bohemian period, the Palatine period, the Danish period, the Swedish period, and the French period. The medical historian, Prinzing, divides it into the typhus period and the plague period.

The disease which carried off so many victims in the early part of this war was the notorious Hungarian disease, a disease accurately described by Tobias Cober, who served as surgeon in the Army of Rudolf II, King of Hungary, in the wars against the Turks. He notes that the disease raged especially in camps heavily infested with lice, and his description leaves no doubt that it was typhus fever. Later in the war, after typhus had apparently spent its force, bubonic plague appeared.

Measures were taken by certain cities to prevent both pestilences from entering. In Munich, for instance, the city fathers shut the city's gates against all strangers, disinfected all incoming letters, and washed with vinegar all the money that came in. These measures stayed the hand of the plague for a time but presently, infected

Spanish soldiers forced their way into the city and spread the disease among the inhabitants. As a result, more than one-half the population died from the plague in a few months.

The Thirty Years War was also noteworthy for the unusual complexion of the contending armies. Each army had not only its soldiers but its women — the soldiers taking with them all possible comforts of home. If the soldier had a wife, he took her along. If she were unwilling to go or if he had no wife, he took a woman along. In addition to the soldiers, their women and children who were numerous and constantly arriving, there were traders, peddlers, gamblers, thieves, beggars, and priests. The traders had their eyes on the soldiers' booty, the gamblers were after their pay. Another interesting addition to these remarkable armies was the schoolmaster, who travelled with the army and held classes for the children.

The number of camp followers far exceeded that of the actual soldiers. General Gronsfeld, at the end of the war, reported to the Elector Maxmilian that the Bavarian army consisted of 40,000 soldiers and 140,000 women, children and camp followers. The Swedes, when they came down from the North with Gustavus Adolphus singing that fine old Lutheran hymn, "eine Feste Burg ist unser Gott", were at first appalled by the laxity that prevailed in the armies of their allies. But they, too, were "all too human" and at the end of the war four Swedish companies which revolted at Köthen consisted of 600 soldiers, 650 women and 900 illegitimate children!

It requires no imagination to picture the effect of these conditions upon the spread of venereal diseases throughout Central Europe.

Many great generals, among them Tilly, Wallenstein, and Gustavus Adolphus, perished in the course of the war. If the results of this war in terms of great victories, territory gained, and prestige enhanced, were balanced against the losses through pestilence, the real victors most certainly were typhus and plague.

Napoleon, the greatest military genius of the nineteenth century, was really defeated some time before Waterloo; he was defeated by his ill-starred campaign in Russia. The Grand Army, to quote Larrey, Napoleon's great surgeon, set out for Russia 400,000 strong. Six months later this army, retreating from Russia, finally reached Gumbinnen in East Prussia, numbering only 3,000!

This disastrous adventure of Napoleon has been described in every history of Europe. The bloody battles, the intense cold, the ferocity of the Russian Cossacks, have all been stressed as the cause of Napoleon's defeat. But the role played by disease was even more important. Typhus fever seems to have played the major role, ably assisted by typhoid and dysentery.

The accounts left by the surgeons in Napoleon's army give us a clear picture of the devastation caused by disease. One of the most dramatic was written by Kerkhoffs, a Dutch surgeon attached to the Third Army Corps of Marshall Ney. This Corps, Kerkhoffs relates, was finally reduced to twenty men, as the result of privation and disease. In discussing the failure of the campaign, Kerkhoffs remarked that if Napoleon had contented himself with occupying Poland and organizing sanitation there, the campaign would have succeeded and changed the whole course of history.

But Napoleon was in a hurry. In spite of bloody battles and the ever-increasing number of sick, he pressed on to Moscow, carrying wagon loads of infected soldiers into that city, leaving behind the desperately sick in towns and villages where they infected the new troops pressing on eastward.

Sergeant Bourgogne of the Grand Army wrote an interesting account of the march into Russia and was particularly impressed by the large number of vermin he saw. He went to sleep on a reed mat in a little town of Poland. Presently he awoke from his slumber and finding himself covered with lice, stripped off his shirt and trousers and threw them into the fire. There were so many of these animals on his garments that, as he relates, they "exploded like the fire of two ranks of infantry."

The role of lice in the production of typhus fever was not discovered until a century later. However, Napoleon's surgeons write so much about lice that we wonder if they did not suspect them. They were aware, however, that typhus was highly contagious. One surgeon observed that Yorck's Prussians, who had not been in Moscow at all, had no cases of typhus fever until they followed the retreating French. Another army

corps had no typhus until it passed along a road previously used by the French. After a march of fourteen miles on this road, there were fifteen to twenty men in each company ill from this disease.

Napoleon's disaster in Russia was not the first time he had been defeated by disease. His previous campaign in Syria had ended in retreat before an advancing epidemic of bubonic plague. On one dramatic occasion Napoleon mingled freely among the plague-infested soldiers at Jaffa to show his contempt for the disease while his own surgeon, Desgenettes, inoculated himself with pus from the buboe of a sick soldier to prove that the disease was not contagious. Desgenettes, fortunately for himself but unfortunately as a hygienic lesson, remained perfectly well, probably because, as we now know, the pus from plague boils often contains very few plague bacilli.

The ravages of typhus, typhoid, and dysentery did not cease with the end of Napoleon's Russian campaign. The retreating army scattered pestilence far and wide. Typhus fever broke out in East Prussia and caused the death of 20,000 inhabitants. From East Prussia it spread rapidly to other parts of Germany, to Silesia, Saxony, Bavaria, and the Rhineland. Prinzing estimates that 10 per cent of the population of Germany contracted typhus fever, and 200,000 to 300,000 died. From Germany it spread to France, where it also caused an appalling toll. In Metz, all the physicians contracted the disease and many of them died. In the Department of Moselle alone, more than 100,000 died from typhus, this figure not including soldiers.

Typhoid fever, long confused with typhus, has caused a greater number of deaths than typhus in the armies of nations whose hygienic standards have never tolerated lice.

In the American Civil War the Union Army lost 44,000 killed in battle while 186,000 died of disease. Of those who died of disease, 36,000 died of typhoid fever.

The health record of the American Army during the Spanish-American War gives us no cause for pride. During this minor struggle, sixty-seven officers and 1,872 men died of disease, and twenty-nine officers and 440 privates were killed in action. The death rate in the army camps became so high as to constitute a national scandal. A commission headed by Walter Reed was appointed to study sanitation in the army camps. They found that "more than ninety per cent of the volunteer regiments developed typhoid fever within eight weeks after they came into camp."

The report of this commission remains a monumental contribution to our knowledge of typhoid fever. They found that the most important carriers of the infection were flies, which feasted on the dejecta of patients and then crawled over the food in the mess halls. Ignorant, untrained hospital orderlies also spread the disease. Without even washing their hands, many of these orderlies left the hospital wards and walked into the mess hall where they prepared food for the soldiers.

The typhoid bacillus was discovered eighteen years before the Spanish-American War, the Widal reaction had been in use for three years, the mode of infection and methods of prevention had long been known. Yet in an army of 107,973 men, there were 20,738 cases of typhoid fever.

The Boer War was an even greater blot on the pages of the history of sanitation. The British had apparently profited little by the American experience. In this war, the British Army lost 22,000 men, of whom 8,000 had been killed in battle or died of wounds, while 14,000 died of preventable diseases. There were 57,684 cases of typhoid fever with 8,022 deaths. The typhoid bacillus had killed more men than the Boers.

The high typhoid fever rate in the British Army during the Boer War seems inexcusable in the light of present knowledge. Three years before the Boer War, Wright had demonstrated the protective value of antityphoid vaccines, and two years later had inoculated four thousand men of the British Indian Army, with excellent results. The British Army in South Africa authorized — permitted is perhaps a better word — voluntary vaccination. The vaccination was carried out in a rather haphazard fashion, records were poorly kept and often lost. The army authorities finally forbade the inoculations altogether.

Two years after the close of the Boer War a Royal Commission appointed to study the value of Antityphoid vaccination issued a favorable report which rehabilitated the procedure of antityphoid inoculation. It came too late, however, to aid the typhoid victims of the Boer War, but

it carried a poignant message to the armies in future wars.

With the turn of the century there came a turn in the health record of armies engaged in war. During their war with China in 1894 and 1895, the Japanese lost four times as many soldiers from disease as from bullets. Indeed, this had been the record of armies for decades. These figures appalled the Japanese government, which reorganized its military medical service and sent thousands of young Japanese all over the world to study the latest advances in sanitation. Japan, to quote Major Seaman, writing in 1905, "even had the temerity (strange as it may seem to an English or American Army official) to grade her medical men as high as officers of the line, who combat the enemy that kills only 20 per cent."

The report of the Japanese Army at the end of the Russo-Japanese War showed the wisdom of their policy. Seven per cent died in battle; 1.5 per cent died of disease.

The first World War proved that the United States Army had profited by its own mistakes in the Spanish-American War and by the mistakes of the British in the Boer War. The lessons of the Russo-Japanese War had also been studied and learned.

Typhoid fever, the great scourge of past wars, claimed only 213 victims in the American Army of 4,000,000. If the typhoid death rate of the Spanish-American War had prevailed, more than 68,000 soldiers would have lost their lives from this disease. Surgeon General Ireland of the United States rightly attributed this decline to vaccination and improved sanitation, including careful examination of cooks and food handlers.

Tetanus caused only four deaths in the American Army, less than two out of every hundred thousand wounded. This figure is especially noteworthy, since the British in the early years of the war had thirty-two cases in every thousand wounded. Prophylactic injections of tetanus antitoxin in all the wounded explained the astonishing American figures.

Typhus fever did not cause a single death in the American Army. The figures from Russia were quite different and, indeed, appalling. During the war and the succeeding revolution, sanitation broke down completely in Russia. There were more than twenty million cases of typhus in Russia, with three million deaths.

The medical experiences of the First World War demonstrated the great advances made in the prevention, control, and cure of certain infectious diseases. Two great groups of diseases, however, remained untamed. "The sputum-borne infections," observed Colonel Garrison, "particularly the pneumonias, remained the insoluble problem of the war." To this must be added streptococcic infections, which caused seventy per cent of the fatal infections in the British Army. And they remained for ten or more years an insoluble problem.

While we think of disease and war, we are prone to think only of infectious diseases and gloss over or neglect the role that disease due to faulty or insufficient nutrition plays. Prominent among these diseases is scurvy.

Scurvy appeared in the armies of the First Crusade. Jacques de Vitry, one of the crusaders, wrote an excellent account of this disease as it appeared at the siege of Damietta in 1219, and notes that it was a "pestilence, against which the doctors could not find any remedy in their art." Later in the Seventh Crusade of 1248, the army of Louis IX of France was attacked by this disease, and no one, reading the account of Sieur de Joinville, can doubt that scurvy was largely responsible for the disaster that befell Louis' army.

In 1535 Jacques Cartier's expedition to Canada suffered greatly from scurvy and probably would have perished to the man, except for the aid of the Indians, who told him that a decoction of the bark and leaves of the fir tree would cure the disease. Cartier's physicians had been powerless in the extremity, so we can understand his oft-quoted remark that the decoction of fir "wrought so well, that if all the physicians of Montpellier and Louvain had been there with all the drugs of Alexandria, they would not have done so much in one year as that tree did in six days."

The work of James Lind, who found that lime juice added to sailors' rations would prevent scurvy, is one of the great discoveries in medicine. Yet, incredible as it seems today, Lind waited forty-two years before he saw his measure put into effect by the British admiralty. The French seemed even more blind than the

British to the importance of Lind's discovery. Larrey relates that Napoleon's army in Egypt was decimated by scurvy in 1799, incidentally forty-six years after Lind's discovery. The addition of lime juice to the rations of the French soldiers in Egypt might have proved a decisive factor in the campaign.

Since the demonstration that citrus fruits, added to rations, prevents scurvy, this disease has lost its military importance. In the recent Italo-Ethiopian War, there was not a single case of scurvy in the Italian Army, although the Ethiopian Red Cross reported over thirty thousand cases of scurvy in their army on the Somaliland front alone.

The medical history of the American Army in World War II has not yet been compiled, but if things go well, we have been promised this history in 1951. However, we have already scattered reports which allow us to form a fairly good impression of the performance of the Medical Corps during this greatest of all wars.

Typhoid fever, which was so deadly in the American Civil War and in the Spanish-American War, is not now a menace to our troops, thanks to vaccination and proper sanitation. Typhus fever was a rarity and most of the cases were seen among the civilian population. The prompt eradication of the dangerous typhus epidemic met in Naples by the medical corps of our army is a dramatic episode in the history of the medical corps, an achievement which would have been impossible in the past. Typhus fever, which had not appeared in Naples for fifteen years, was imported into Italy in 1943 by refugees from the Balkans. The entire population was deloused mainly with DDT, a large number of the inhabitants were vaccinated with typhus vaccine, and the disease promptly disappeared. What a contrast to Napoleon's experiences in Russia!

Malaria continued to be a grave problem, particularly in the South Pacific. Yet it was never the enemy it had been, for example, during the Spanish-American War. In the Cuban campaign, according to Colonel Theodore Roosevelt, every officer in his regiment, except himself, was down at one time or another with malarial fever. He wrote, "Though the percentage never got above twenty, there were less than fifty per cent who were fit for any kind of work."

The sputum-borne diseases, especially the pneumonias which Garrison called "the insoluble problem" of World War I, were no insoluble problem this time, thanks to the sulfonamides and penicillin. There were no frightful epidemics of pneumococcus or streptococcus pneumonias such as we saw in the last war. Even epidemic meningitis, which was so fatal before, no longer carried a death sentence to nearly half of the soldiers attacked. I know of one hospital unit which treated nearly three hundred cases without a death — thanks to sulfadiazine.

Just a few comparisions may highlight the medical advances in World War II as compared to World War I. The figures are those of General Hugh Morgan:

	World War I	*World War II*
Death rate in wounded	8.1%	3.3%
Meningitis mortality	38.0%	4%
Pneumonia mortality	38.0%	0.7%
Dysentery mortality	1.6%	0.05%
Annual death rate per 1000 for all diseases in the Army, excluding surgical conditions	15.6%	0.6%

In 1940 the Medical Corps of the United States Army consisted of 1,600 officers. On V-E day there were 47,000 doctors in the Army. Nearly three out of every four doctors were civilians in uniform, men who had studied medicine in competition with their fellow students, men who practiced medicine in competition with their colleagues, men who in great numbers had risen to eminence because of their industry and their ability and not because of a nod from some medical Fuehrer or Duce in Washington.

General Kirk, in a recent article, remarks, "I know that civilian physicians do not take kindly to the regimentation of the Army." That may explain the ill-concealed hostility with which they regard certain maneuvers in Washington. Possibly some of those in the seats of the mighty imagined that the doctors after four years of army regimentation had grown to like it and would prefer it to the competition of private civilian practice. Well, ask them.

A group hovering about the thrones of the mighty seem filled with the urge for sociological experimentation. They wish to employ us for what our off-and-on friends, the Soviets, call

euphemistically "social engineering". Possibly an anecdote related by Eugene Lyons describes the situation:

"Once," he writes, "I was with a group of Americans who stopped to talk to a Russian woman outside a bakery; one of those things that would enable them to write, 'I talked personally with ordinary Russians and despite the barrier of language I sensed their devotion to the Five Year Plan.' It fell to me to interpret. The woman answered our questions evasively, trying to say the 'proper' thing and embarrassed by the attention. As she talked she fingered the stuff of an American dress and studied the women's hats and shoes. Then, timidly, she inquired about the cost of various items of our clothing and whether they were difficult to get. Finally she said in a deprecating voice in which there was an undertone of cautious irony: 'Ask them how they like our life here.' I translated the consensus of group opinion: 'They think your life is very difficult just now, but most interesting!' 'Interesting!' The woman made a wry face; the word cracked her discretion. 'Interesting! Sure, it's interesting to watch a house on fire. But we're in it! Tell them that, citizen!' And she turned away angrily."

* * * *

War, with its horrors, has, according to some, its compensations in the great medical discoveries to which it gives birth. It is worthwhile to pause a moment and see if the history of medicine bears out this opinion.

Bubonic plague, which was spread far and wide by war, was conquered not in wartime but by the demonstration that rats carried the disease and by Kitasatos' discovery of the plague bacillus. Typhoid fever has been conquered by the proper control of water supplies and by antityphoid vaccination — both peacetime discoveries. Typhus fever has been controlled since Nicolle, working in the quiet and peace of his laboratory in Tunis, demonstrated that typhus was spread by lice.

Smallpox, which the Romans spread in their wars into Central Europe, was finally checked 1800 years later by Edward Jenner, a country doctor in Berkeley. Malaria, unchecked for centuries, was finally halted by quinine, brought to Europe by Jesuit priests. Anesthesia, so important on the battlefield, was discovered by another country doctor, Crawford Long in Georgia, while the principles of aseptic surgery were introduced by Joseph Lister, working in a small hospital in Glasgow. The X-Ray, so necessary to both the military and the civilian surgeon, was discovered in Roentgen's little laboratory in Wurzburg. Sulfanilamide and penicillin were both peacetime discoveries; indeed the great value of the sulfonamides might have been recognized twenty years earlier if the initial work done in 1914 had not been interrupted by the First World War.

Medical advances are certainly made in wartime. War is a vast laboratory of human suffering which gives an unparalled opportunity to test out the means of alleviating suffering. But the greatest medical discoveries were not made on the battlefield. The object of warfare is to destroy the enemy, not to advance medical science. War draws upon the medical wisdom of the centuries and although it often destroys the accumulated treasure and culture of the centuries, it does not destroy this wisdom, for that is indestructible.

VITALLIUM PLATES USED IN REPAIR OF LARGE HERNIAS

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Difficulty is commonly encountered in reconstructing the inguinal region when it is the site of a large direct hernia. The defects which are present in the abdominal wall are often large and the tissues about the hernial opening are stretched and atrophied. The transversalis or endoabdominal fascia is the one most defective and it is also the tissue most difficult to reconstruct because of its thinness and limited elasticity. The importance of this layer in restraining the peritoneal bulge in the inguinal region cannot be overemphasized. It bears the same relationship to the abdominal wall that the fabric does to the automobile tire.

Where the size of the opening in the fascia is so large that it cannot be brought together with-

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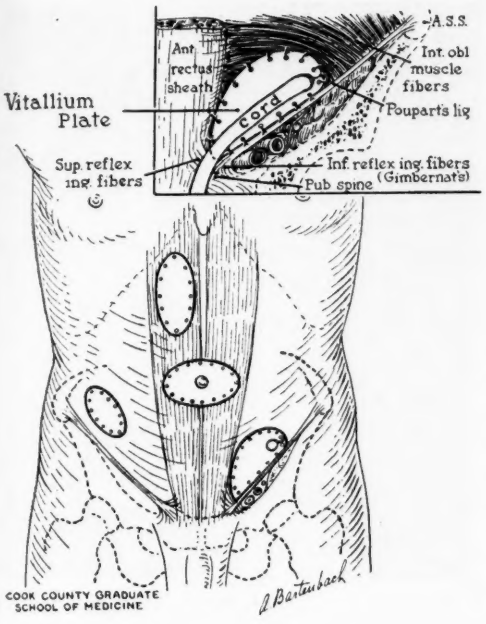

Figure 1. Plates of different shapes designed to meet hernial requirements in different areas.

Insert I. Shows inguinal plate in place with structures surrounding plate.

out undue tension or tearing, many surgeons have been prompted to bridge the defect with autogenous fascial grafts. Some measure of success has followed the use of these grafts, but they frequently fall short of their objective. These autogenous fascial grafts have no greater growth potentiality than the tissue into which they are to be implanted. *Thus, one is frequently taking old fascia from an old thigh and putting it in an old hole in an old man.* The mere transposition does not add any rejuvination to either the graft or the host.

It is with this thought in mind that we have employed in certain instances the implantation of a mechanical inert prosthesis to replace the defective parietes and act as a scaffold about which new tissue may grow. We were fully aware of the fact that surgeons in the past have employed various plates and filigres of metal and other substances to replace or strengthen defective parts of the body. The use of these mechanical supports have had to be, in many

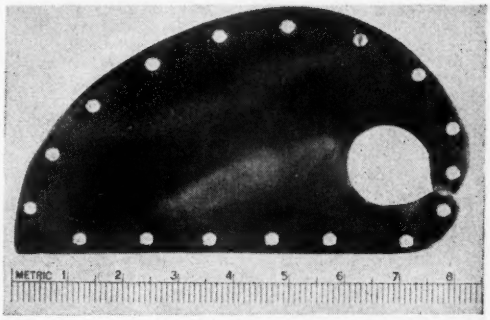

Figure 2. Photograph of plate showing relative size and giving disposition of openings.

instances, discarded because of their irritation to the tissues in which they had been implanted.

In the past ten years much has been written regarding the inertness of Vitallium* and its tolerance by the tissues of the body. It was this passive or inert property that led the writers to make use of the alloy in anterior abdominal wall reconstructions. The metal plate which we have designed is fashioned to accurately fit the defective inguinal region. It is made of Vitallium which is an alloy offering practically no irritation to the tissues into which it is placed.† See Figures 1 and 2.

The plate is so constructed that the spermatic cord passes through an opening which offers pro-

*Vitallium is the trade-name given to an alloy whose approximate composition is Cobalt 65%, Chromium 30% and Molybdenum 5%. The authors thank Mr. Walter Klann of the Austenal Laboratories, Inc. for helping them develop the prosthesis which they are now using.

†Vitallium was originally developed by the Austenal Labortories as a dental alloy which was resistant to the corrosive action of saliva. In 1935, Venable and Stuck carried out some animal experiments on electrolysis of metals in the body. After demonstrating that Vitallium was inert or passive in body fluids, they operated their first patient in September of 1936. In the last ten years, Vitallium has not only established itself as a valuable alloy in bone surgery, but it has also found newer uses in other fields of surgery.

Pearce in 1940, and Clute in 1941, independently devised Vitallium tubes to be placed in bile ducts for repair of strictures or to replace irreparable damage.

Kimball and Drummond in 1941 successfully employed a Vitallium prosthesis instead of cartilage in nasal skeletal support in four cases. They encountered no untoward reactions, no infections, and no drainage.

In 1942 and 1943, Blakemore, Lord and Stefko made very interesting studies on non-suture methods for blood vessel anastomosis. They concluded that Vitallium is a non-irritating alloy suitable as a prosthesis for a vein graft bridging an artery or vein defect in non-suture method of vessel anastomesis using a single or double tube technic.

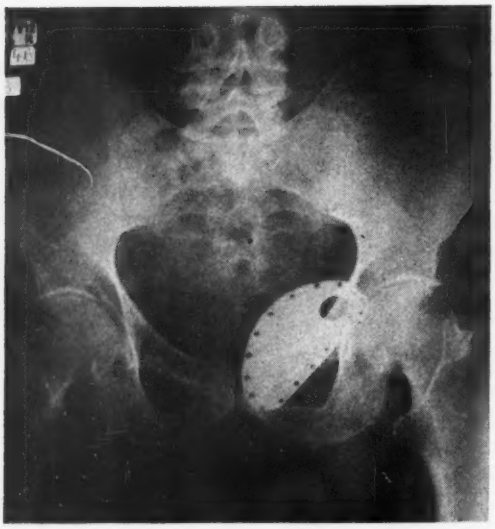

Figure 3. X-ray showing Vitallium plate in place.

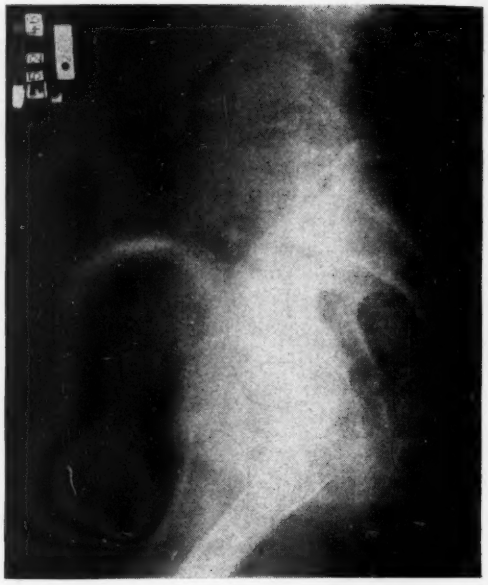

Figure 4. Lateral view of pelvis showing plate above symphysis pubis.

tection to the region of the internal ring. The plate is also provided with perforations through which sutures can be inserted to hold it securely in place. Its position is such that it does not interfere with flexion of the thigh on the abdomen or with torsion of the pelvis. This *plate is designed for those hernias that do not offer themselves to the usual methods of repair.* See Figures 3 and 4.

In some umbilical hernias there is difficulty in finding sufficient tissue to bridge the defect. In such instances, it is possible to adapt a specially constructed Vitallium plate to the defective area. It should be placed deep to the rectus muscles, between them and their posterior rectus sheaths. It should be fixed to the posterior sheath with non-absorbable suture material. Plates have been designed also for other types of ventral and post-operative hernias where loss of tissue makes reconstruction difficult or impossible. See Figure 1.

Technic:

1. Inguinal incision.
2. External oblique aponeurosis was split in the direction of its fibers from the external ring to the level of the internal ring.
3. The cord was elevated and found to include a large indirect hernia of the sliding type. There was a portion of the sigmoid colon in the sac and it made up part of the wall of the sac. Medial to the deep epigastric artery, a broad-necked direct hernia presented itself. It too, was of the sliding type and the bladder made up part of the anteroinferior wall of the direct sac. These two hernias, direct and indirect, made an unusual combination of the so-called "pantaloon hernia" with the deep epigastric artery and the veins marking the crotch. The indirect hernia had sigmoid slide into its wall, and the direct hernia had bladder drawn into its wall.
4. The direct sac, medial and inferior to the deep epigastric artery was entered; it was of moderate size and very thick walled, obviously due to properitoneal fat from the lateral edge of the bladder.
5. The deep epigastric vessels were doubly clamped, ligated, and cut. This step converted the openings of the two distinct hernias into one common orifice. The bladder wall was recognized and pushed back into place.

6. One common opening for both hernias made it possible to replace both intra-abdominal organs by two purse-string invagination sutures.
7. A double catgut purse-string suture (No. 0) was carefully inserted in the peritoneum from the inside of the common sac just beyond the natural peritoneal reflections of the intra-abdominal organs, and then tensed and tied; this inverted all the contents into the abdomen.
8. A second purse-string suture was placed in the endo-abdominal fascia and further invagination accomplished.
9. The arched fibers of the transversus and internal oblique muscles were sewn down to the shelving portion of Poupart's ligament; endo-abdominal fascia was systematically included in these stitches.
10. The Vitallium plate was now placed over the newly repaired defect and the cord brought through the opening provided in the plate. The prosthesis lies in relation to the rectus sheath medially; the shelving edge of Poupart's ligament inferiorly; and the arched fibers of the inner two flat muscles of the abdomen superiorly. See Figures 1, 2, 3, and 4.
11. The plate was anchored to the above named structures by interrupted wire sutures, (No. 32). Sewing was facilitated by running the needle through the tissue first and then through the openings provided in the Vitallium prosthesis.
12. The external oblique aponeurosis which was split at the beginning of the operation was restored by suturing the two flaps together over the Vitallium plate and cord. The plate is thus sutured around its entire circumference; its posterior surface rests on the internal oblique muscle while the anterior surface lies immediately behind the aponeurosis of the external oblique.

SUMMARY

Certain large hernias of long standing are difficult or impossible to repair by the usual reconstructive suture methods. Autogenous fascial transplants have certain disadvantages. The use of a non-irritating 'argonic' prosthesis will materially aid in the ease and security of the repair of certain types of hernias. It will be found particularly useful in elderly people who are not compelled to do heavy labor.

RECENT DEVELOPMENTS IN THE TREATMENT OF HYPERTENSION

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The treatment of essential hypertension has been one of the unsatisfactory chapters in therapeutics. In many instances, no method at our disposal will serve to lower the blood pressure for any significant length of time. In other cases, the arterial tension can be lowered at least a considerable period. The question of the wisdom of attempting to reduce blood pressure in hypertension is often discussed. I feel that when we are able to do so it is the best thing to do. In such cases many of the disagreeable symptoms accompanying hypertension are frequently relieved and probably in some patients impending vascular accidents might be deferred or even averted.

There have been recent developments in the treatment of hypertension which indicate that we are making progress. Many of these developments are based on a sounder physiological knowledge of the cause of this condition. Until we are able to establish the cause of any clinical entity we are handicapped in finding a sound therapeutic basis for the lesion.

In any case of hypertension it is very important to determine whether or not we are dealing with essential hypertension or one of the less frequent causes of high blood pressure. Among less frequent causes occasionally encountered are acute and chronic nephritis, enlarged congenital polcystic kidneys which are revealed by abdominal palpation or x-ray, and tumors of the adrenal gland causing acute paroxysms of marked hypertension. Coarctation of the aorta will cause hypertension of the upper extremities and this lesion must be thought of in any young individual having a hypertension. In these patients, the abdominal aorta pulsation is difficult to find and the blood pressure in the legs is lower than that in the upper extremities. The x-ray of the chest in

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these patients will show the typical scalloping of the ribs. Unilateral or bilateral pyelonephritis occasionally causes hypertension. Basophilic adenomas of the pituitary are rare causes. Toxemia of pregnancy and urinary obstruction due to an enlarged prostate or renal calculus may be accompanied by hypertension.

The general care of the patient is important. An effort should be made to get them to take things more easily and face unpleasantness with equanimity. Excessive concentration on business should be stopped and the patient induced to devote a sufficient portion of his time to play and amusement. Regular hours should be kept, sufficient rest secured, and the perpetual hurry of our present life avoided as far as possible.

Faulty health habits when present should be corrected. These include habitual over-fatigue, excessive caloric intake, excessive worry, and stress. Exercise within reasonable limits is not only permissable but should be encouraged. One must be careful not to give his patient the impression he is an invalid because many hypertensives develop a neurasthenic disposition.

No dietary treatment is known which has a specifically favorable effect on essential hypertension. We certainly should not tell our hypertensive patients that they must not eat meat, eggs, dairy products or salt, a practice frequently resorted to in the past. However, the obese hypertensive patient should be reduced to a more satisfactory weight level. In such cases we frequently see some fall in pressure after a moderate reduction in weight from an obese level. Recently, the "rice diet" has been advocated by Kempner[1]. I have had no experience with this diet but doubt that the average hypertensive would follow it very long.

There is no evidence that alcohol plays any part in the causation or aggravation of essential hypertension. In fact many patients with vascular disease are now being encouraged to take a small amount of alcohol daily. Naturally, no hypertensive patient should be allowed an excessive consumption of alcoholic beverages.

Recent evidence demonstrates that tobacco will increase the blood pressure of the hypertensive patient. In a well controlled investigation Hines and Roth[2] demonstrated an immediate rise following cigaret smoking in either systolic or diastolic blood pressure or both in most of the hypertensive subjects tested and the main rise was of considerable amplitude. The main rise in blood pressure was less in the control group of non-hypertensives and in some instances there was even a fall in diastolic pressure. Excessive rises in blood pressure from smoking occurred only in the patients who had evidence of an inherently hyperactive vascular system.

The medical treatment of essential hypertension has often been disappointing. Kapernick[3] found no particular value for the reduction of blood pressure in hypertension in the use of such drugs as theobromine, theobromine and phenobarbital sodium, iocapral, theophylline ethylenediamine, erythrol tetranitrate, hepvisc, and allimin. According to his observations no depression of blood pressure can be expected from their use. Phenobarbital combined with some of the above frequently allays nervousness with some lowering of pressure. It is common knowledge that pressure is frequently lowered through suggestion alone. This was well demonstrated many years ago when Ayman[4] enthusiastically prescribed nothing but dilute hydrochloric acid to hypertensive patients and found some lowering of pressure in a large percentage.

Recently, vitamin A concentrates have been used in an attempt to lower pressure. Taylor and his associates[5] studied the effect of vitamin A concentrates given in amounts of 100,000 to 400,000 U.S.P. units daily for from five to ninety days. No alteration of blood pressure levels was noted in any of the cases studied. In contrast to this report is one of Govea[6] who stated that almost fifty percent of 420 patients with hypertension treated with massive doses of vitamin A showed a significant reduction of blood pressure. He reported an improvement in subjective symptoms. Pond and Rosen[7] also report success in the use of vitamin A. Katz, Rodbard and Meyer[8] studied the effect of vitamins A and D on dogs with experimental hypertension. They were unable to show that vitamin A in large doses was capable of lowering the blood pressure in these animals. Vitamin D failed to elevate the blood pressure in normal dogs. Only occasionally were slight variations noted when these substances were administered in doses sufficiently large to be effective.

Among other drugs or products recently advocated is testosterone, the male sex hormone.

Marquez[9] reports definite improvement in the subjective symptoms as well as reduction of the arterial pressure. This work has not been confirmed by others.

Recent work has lead to the theory that hypertension may be due to some humoral mechanism of renal origin. Goldblatt[10] demonstrated that if the blood flow through the kidneys of dogs is significantly reduced by partial clamping of renal arteries persistent hypertension invariably resulted. Page[11] was able to produce chronic renal hypertension due to a constricting perinephritis which resulted from wrapping cellophane or silk about the kidneys. As a result of this work, the hope of successful therapy by renal extracts appeared. The possibility of developing this therapeutic method for reducing high blood pressure rests upon the basis that in the kidneys of animal and man, a substance called renin is produced. This substance combining in the blood stream with a chemical designated as an activator produces a third substance which has pressor action and has been named angiotonin. The kidney also produces a substance which apparently counteracts angiotonin lowering blood pressure in hypertensive animals. When a kidney becomes diseased, however, a secretion of renin is believed to overbalance its secretion of this inhibitor of hypertension. As a consequence, the excess of renin leads to the production of an excessive amount of angiotonin which subsequently raises the pressure. This observation led to the preparation of kidney extracts which appear to produce their anti-pressor action at least partly through their ability to neutralize angiotonin. Page[11] reported the use of kidney extracts in a series of thirty-seven patients, twenty-four of whom had malignant hypertension and thirteen essential hypertension. Nine of the group of malignant hypertension died, six in uremia, and three of cerebral hemorrhage, whereas, none of the cases of essential hypertension resulted in a fatality. The most striking changes following treatment were reversal of eye ground abnormalities with improvement in vision, increase in cardiac output, and decrease in diastolic blood pressure. Unfortunately, because of occasional shock-like reactions, the lack of standard chemical procedures to yield a uniform product of high potency and the great difficulty of their preparation, renal extracts cannot at present be regarded as a practical means of therapy. In a recent personal communication Page stated "Work on the kidney extracts has been discontinued temporarily. At the stage it was left, certain things had become clearer. The first of these is that the kidney contains a protein which depresses arterial blood pressure in dogs and rats with experimental renal hypertension. This is now established beyond any doubt. There is a tendency, however, on repeated injections of this protein, for the animals to become refractory to it. This problem will be investigated in the future. The work on patients has, I think, shown that some patients respond quite well with a fallen blood pressure, but it is uncertain how much of this fall is due to the depressor protein and how much is due, for want of a better term, to nonspecific reaction. It seems fair to say that the use of kidney extracts has distinct possibilities in the treatment of patients with hypertension, but the work should not be considered any more than a clinical experiment. There is little reason to suppose that when work is resumed on them that any immediate practical solution of the problem will be achieved."

At present, the drugs having the greatest effect in lowering the blood pressure in essential hypertension are the thiocyanates. The use of thiocyanates in the treatment of hypertension has beof a practical method for determining the blood come more popular since Barker's[12] introduction thiocyanate level and his demonstration that the drug may be used safely and effectively in controlled cases. The use of the drug had previously fallen into disrepute because of the frequency of severe toxic symptoms and even deaths accompanying its use.

Several years ago Allen and I[13] attempted to determine if the thiocyanates could be used safely and effectively in the treatment of hypertensive patients seen in private practice using laboratory facilities available in the average community. Previous to that time all of the reports had appeared from large clinics and teaching hospitals having unlimited laboratory facilities and where the expense to the patient was of no necessary consideration.

The initial group of patients reported included 19 unselected cases of hypertension with systolic blood pressures remaining above 200 mm. and diastolic pressures above 120mm. on the usual

forms of therapy such as theobromine, nitrates, sedatives, etc. All had been observed for a period varying from three months to three years before the thiocyanates were administered. We believed such a control period removed the factor of suggestion from the evaluation of results. A much larger number of other patients have been studied since the initial report and the results are comparable with those previously reported and summarized below.

During the early months of the investigation no attempt was made to select cases other than that they had been observed over a sufficient control period and that their systolic and diastolic pressures were not below the minimum indicated above. As a result we included five patients with severe renal damage as shown by marked albuminuria, elevation of non-protein nitrogen, and decreased phenolsulphonephthalein excretion. At present such individuals are not given thiocyanate because of the unsatisfactory results obtained in this type of patient.

During the course of treatment all patients are seen at regular intervals and the blood thiocyanate determined. The technical assistance of Miss Mary Mintert, M. T. (ASCP) in determining the blood thiocyanate levels is gratefully acknowledged. Blood pressure is taken under similar conditions such as time of day and relation to meals. They are carefully questioned for any symptoms suggesting toxic reactions. At the onset of treatment, the frequency of observation is every two weeks but the interval is increased to four weeks after the thiocyanate level becomes stabilized. The patient is given a prescription containing six grams of potassium sulfocyanate in 240 cc. of 25 percent aromatic elixir and instructed to take one teaspoonful three times daily, or given tablets of 0.18 grams, two daily. In order to obtain a satisfactory blood thiocyanate level it is frequently necessary to increase the dose. The dose of the potassium thiocyanate is varied according to the thiocyanate level which we attempt to maintain between seven and 10 milligrams percent. After this level is attained the maintenance dose is usually less but varies considerably in individual patients.

We consider the result excellent when the systolic pressure falls to 170 mm. or below with a corresponding fall in diastolic pressure and the patient feels symptomatically improved. The result is considered good when the blood pressure decreases but not as great as indicated above and if symptomatic improvement also occurs. Results are considered poor if no fall in blood pressure occurs, if there is no symptomatic improvement, or if toxic effects force discontinuing the treatment.

In the original group studied, the results were excellent in 10 cases, good in two and poor in seven. The average fall in blood pressure in the improved cases was 46 mm. systolic and 22 mm. diastolic. Five of the cases which are considered among the poor results are those having severe renal damage. Although three of this group showed a significant fall in blood pressure, the patients were not symptomatically improved and the course of their disease was not altered. In those with no demonstrable renal damage the results were poor in only two. In both of these there was a satisfactory fall in pressure but the drug had to be discontinued because of generalized skin eruption which recurred when an attempt was made to resume treatment. Later studies demonstrated that one of these two patients had a functionless right kidney due to an atrophic pyelonephritis but the function of the left kidney was normal. A nephrectomy was performed. In spite of lack of symptomatic and clinical improvement this patient lived until a few weeks ago when he died suddenly. The other patient had an excellent response in blood pressure and felt symptomatically improved until the severe skin eruption forced discontinuing treatment. This patient also had frequent attacks of angina pectoris preceding treatment with potassium thiocyanate. The frequency of the anginal attacks was not changed during the course of potassium thiocyanate and have persisted since treatment was discontinued. There was a return to the previous high level of her blood pressure after the conclusion of thiocyanate therapy. This patient is alive and fairly active indicating the relative benign course often seen in essential hypertension. The degree of hypertension persists. The results in our more recent cases indicate a satisfactory fall in pressure with symptomatic improvement in more than 50 percent.

Symptomatic improvement usually accompanies a fall in blood pressure. This includes a decrease in severity and frequency of headaches, less nervousness and irritableness, less insomnia,

and less vertigo. One might question the improvement in headache as due to the fall in blood pressure since thiocyanate apparently improves some cases of migraine without hypertension.

We have encountered no serious toxic effects except in the two cases with severe dermatitis and this disappeared after discontinuing potassium thiocyanate. Soon after the onset of treatment some complain of increased lassitude and weakness but this usually disappears within several weeks. More marked fatigue and weakness accompanied extremely high blood thiocyanate levels (20 and 24.4 mgms. percent) in two patients but were not present at satisfactory blood levels. Other minor toxic symptoms reported consist principally of aching in the legs, slight epigastric distress, nausea, and decreased libido. Rarely, marked nervousness may be manifested. More serious complications mentioned in the literature include angina pectoris, exfoliative dermatitis, congestive heart failure, cerebral thrombosis, psychosis, acute goitre and thrombophlebitis. Usually these can be avoided or anticipated by close scrutiny and control of the patient on his frequent visits. The acute goitre when developing is often large, makes its appearance suddenly and may be painful usually because of a rapid increase in size. The pathologic picture is not that of exophthalmic goitre and there are no clinical evidences of thyrotoxicosis. The description of thiocyanate induced goitre by Rawson, Hertz, and Means[14] includes enlargement of the thyroid gland, symptoms of hypothyroidism with low basal metabolism, often exophthalmos and decreased excretion of the thyrotrophic hormone in the urine in the inactivated form. Apparently, the appearance of this type of goitre can be prevented by the assurance that the patient has had previously an adequate amount of iodine and after the goitre has developed it can be controlled by the proper administration of thyroid. None of our patients developed goitre. Koffler and Freireich[15] have reported four cases of thrombophlebitis in patients treated with potassium thiocyanate. We believe that potassium thiocyanate may be used safely and effectively in private practice in selected cases of hypertension providing the blood thiocyanate level is controlled. This determination is not difficult or expensive to perform.

However, the use of thiocyanate is not without danger and is not the perfect form of treatment for hypertension. However, no other drug has produced comparable results. The drug should be discontinued after no improvement has occurred with a satisfactory blood thiocyanate level. A response to thiocyanate therapy might be expected in an individual under sixty years of age with severe hypertension or with symptoms due to high blood pressure and without demonstrable renal or cardiac insufficiency. It is true that an occasional patient might be encountered who is sensitive to the drug but this is true of many valuable drugs including arsphenamines, sulfonamides, etc.

Approximately, 3,000 cases of sympathectomy have been performed since 1925 as a therapeutic measure for hypertension. All of these surgical procedures have consisted largely in removing portions of the sympathetic nervous system particularly those having to do with the vasomotor control of the vascular supply of the viscera of the splanchnic bed. The purpose is to lower blood pressure by decreasing the tone of arteriolar smooth muscle. Results of several investigators suggest that in a significant percentage of patients with continued diastolic hypertension lowering of blood pressure for a considerable period has resulted from surgical intervention of this sort. This has been associated with favorable changes in the eye grounds, electrocardiograms, and cardiac and renal function as measured by ordinary tests as well as symptoms. The first operation seems to have been done by Roundtree and Adson[16] in 1925. They removed the second, third, and fourth lumbar ganglions without significant effect in a patient with malignant hypertension. Later Adson cut the sympathetic nerves by resection of the anterior route. This operation requiring laminectomy was apparently effective but was given up because of its difficulty and high mortality. In 1934 Craig and Brown[17] carried out unilateral and bilateral infradiaphragmatic splanchnicectomy in a few cases with resection of the first and second lumbar ganglions. In 1935, Peet[18] reported his initial studies of supradiphragmatic bilateral splanchnicectomy with lumbar gangliectomy adding in some cases partial

adrenalectomy. In 1940, Heinbecker[19] reported his studies on splanchnic section. Heinbecker also denervated the adrenals. Smithwick[20] describes a two-stage bilateral transdiaphragmatic operation by which he removes the entire great splanchnic nerves, their aortic branches, and the sympathectic ganglions, the tenth, eleventh, and twelfth dorsal ganglions, and the first lumbar in the minimal operation and excision of the sixth thoracic to the third lumbar in the maximal operation. Finally, Grimson[21] has reported a group of almost total bilateral sympathectomized cases. At Barnes Hospital, Heinbecker[22] has performed sympathectomy and denervation of the adrenals on more than 100 cases with an insignificant operative mortality. Three of these have been patients whom I have observed in private practice before and after surgery. One was a twenty-one year old white married woman who had a very moderate hypertension previous to her first pregnancy. Early in the pregnancy her pressure became very high indicating the effect of pregnancy on a very moderate pre-existing hypertension. Her pressure did not fall. It remained at levels of approximately 230 mm. systolic and 150 mm. diastolic. Bilateral sympathectomy with adrenal denervation was done by Heinbecker. There was very little change in her pressure although she remained comfortable and active for at least two years afterwards when she developed a massive cerebral hemorrhage and died within a few hours. She worked daily as a stenographer and the hemorrhage occured while working. Another patient was a 33 year old white woman who had incapacitating headaches. Her pressure was 230 mm. systolic and 130 mm. diastolic and there was blurring of the optic discs with some hemorrhages. The headaches have disappeared entirely following surgery. Her pressure fell considerably and the eyeground changes regressed but during recent months there has been some increase in her pressure although she is symptom free. The third patient was a young woman who had hypertension for approximately five to six years. Soon after sympathectomy and adrenal denervation her pressure fell to within normal limits. She was one of the infrequent patients who developed postural hypotension and tachycardia following sympathectomy. This was troublesome for several weeks but later disappeared. However, a year following the operation, the pressure increased some but has not reached its previous high level. Heinbecker contends that splanchnic section will not lower blood pressure appreciably once the renal ischemia is effected by mechanisms not under nervous control. He further states that symptomatic relief from nervous symptoms will be afforded in over seventy percent of cases. He considers this an effect of adrenal denervation. It is secured in many cases regardless of the effect on blood pressure.

Smithwick's[20] report included 156 patients followed one to five years. As indicated above Smithwick's operation is more extensive than most of the other operations. Smithwick believes that failure to modify the hypertension in a given patient could be due to inadequate surgical operation. He contends that failure to decrease the hypertension following a lesser operative procedure can be converted into a successful result by removing more extensive portions of the sympathetic trunks in subsequent stages. Smithwick's operative mortality was 2.8 percent. He divides his results into five groups, according to the magnitude of the effect on the horizontal resting diastolic blood pressure level. In Group 1 there was a lowering of 30 mm. or more; in Group 2, of 20 to 29 mm.; in Group 3, of 10 to 20 mm., and in Group 4, up to 10 mm.; in Group 5 the blood pressure was higher. The average reduction for the first four groups was 61/43, 44/24, 27/15, and 10/5 mm. respectively. In Group 5, the average elevation was 18/11 mm. The results for 61.5 percent of the patients fell into Groups 1 and 2, those for 79.4 percent, into Groups 1, 2, and 3, and those for 20.6 percent into Groups 4 and 5. The results of Groups 1 and 2 are regarded as significant and of Group 3 as probably significant. The 156 patients have been followed an average of twenty-two and one-half months. He concludes that a further period of observation is needed to determine the duration of the effect of operation.

We certainly must conclude that the surgical treatment of hypertension is most promising and further investigation is warranted. It is based on a sound scientific background with an attempt to remove etiological factors. It is still on an experimental basis and should remain in the hands of those surgeons who are thoroughly familiar with this type of surgery. Although progress

has been made toward determining the type of patient most likely to benefit from sympathectomy more rigid standards will probably be formulated in the future after further study of the accumulating mass of statistics. This should also determine which of the various surgical procedures is best adapted to the average patient having essential hypertension. Probably some of the procedures are not extensive enough while others are too radical and the disagreeable symptoms and results might outweigh the additional decrease gained in the blood pressure.

CONCLUSION

We are facing a more promising future in the treatment of essential hypertension. Thiocyanates are helpful in selected and controlled cases. The concept that essential hypertension results from primary kidney disease has stimulated the use of renal extracts but they have not attained a practical clinical use at present. The results reported by the surgeons advocating sympathectomy are encouraging but many years of observation are necessary to determine the effect of this procedure in increasing life expectancy and delaying cardiac, renal and cerebral complications in patients having essential hypertension.

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TREATMENT OF FRACTURES OF SUPERIOR AND INFERIOR MAXILLA

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Fractures of the superior and inferior maxillas are increasing in number. They are increasing also in the amount of dislocation and severity of the trauma to the bones and tissue. In 1915, Dunning[1], reported Stimson's work which showed mandibular fractures rated tenth in a list of percentages of fractured bones of the body. In 1928, Reiter[2], placed it sixth, at which place it has remained. During the past four years in my practice, fifty percent of these cases were the result of traffic involvements, forty-two percent were industrial accidents, and the remaining eight percent were received in recreational activities.

An injured person is entitled to the best results obtainable, and to secure these, the earliest possible consultation and treatment is urgent. I like Stevenson's[3] idea of studying and treating each fracture as it presents itself. In our local hospital, when a jaw injury is admitted, an oral surgeon is brought in to give his advice as to the aligning of the teeth and the securing of a func-

tioning bite. The general surgeon with a large fracture practice advises as to the alignment and general condition of the patient. An otolaryngologist is always called in because of his knowledge of the anatomy of the head and neck.

I have observed unsatisfactory end results in depressed fractures of the superior maxilla. Too many of these have been my own patients. These poor results were usually a drooping of the outer one-third of the infraorbital ridge. In none of my so-called poor results has any patient complained because of lagophthalmos or a drooping of the infraorbital ridge. However, in some instances, I know that better results could have been obtained. These unsatisfactory results were not due to failure to replace the fragments, but rather because these fragments were not adequately held in place. No attempt was made to immobilize the fragments beyond the gauze packing in the antrum, which proved insufficient.

Many devices have been recommended to obtain immobilization of the fragments of the superior maxilla and to keep the infraorbital ridge in place. Crawford and Blum[4], with suggestions from Erich, have an excellent head band for immobilization of fractures of the upper jaw that has advantages over plaster in that it is applied directly to the skull. I have been using a Straith's[5] head band with his nasal and alveolar attachment. I do not believe one can get enough stabilization from any head band unless it is attached directly to the skull or buried in a well placed plaster cap. This plaster for the Straith head band should be put on according to these directions supplied by the manufacturer:

"For a permanent fixation, using the head band, a plaster head cap can be made using stockinette over the head, a small amount of cotton wadding and plaster bandage, fitting well down behind the occiput over the ears and down to the eyebrows with a well fitted crown to prevent its downward displacement. The vortex need not be covered. After two or three rolls of plaster have been applied, the head band can be placed over the plaster, adjusted to size and another roll applied to hold the band in place, being sure to leave the binding posts, etc. exposed. If desirable, coat hanger wire side arms and the separate binding post over the nose can be incorporated in the plaster head band."

Unless the Straith head band is firmly anchored similarly to the above procedure, there will be a tilting and loosening, and a failure of the extension. The alveolar and nasal attachment may be attached to the many rods of the Straith head band. The nasal attachment is adjustable and supports the inside of the nose as well as controlling the shape of the outside of the nose. The alveolar plate is adjustable and dental low fusing impression compound may be used to apply pressure or ease it.

Parker[6] and Asbell[7] stress the importance of a good cosmetic effect, as well as the necessity of normal occlusion. Everyone agrees with them. Stout[8] states clearly the importance of the early treatment of shock and immobilization. A good cosmetic result is more possible if the fracture can be treated before the initial deformity is obscured by swelling.

At the Dixon Public Hospital a badly injured person is treated as follows:

1. The hemorrhage is controlled.
2. The patient is kept warm and quiet.
3. Plasma and whole blood are given as indicated.
4. Tetanus antitoxin, 1500 units, is always given. This may be combined with gas antitoxin.

With the hemorrhage controlled and shock treatment started, a careful inventory of the wound is made as follows:

Inspection: This is important if the patient is seen early. If the patient is seen late the swelling is so great that correct observation is obscured. The nasal tissues should be shrunk and inspected internally.

Palpation: Using the index and third finger of each hand the infraorbital and supraorbital rims, the forehead, zygoma, facial bones, nose, hard palate and the condyles and mandible are palpated. Thus, by palpation, elevations, depressions and separations are detected.

X-ray: Fractures involving the condyles may easily be missed by all other methods of examination.

Treatment of the Patient: If the patient's condition does not warrant immediate operation it does no harm to clean the wound with soap and water and then dry it with alcohol. The wound may be explored for foreign bodies and wound edges approximated with heavy silk as an emergency, so that the tissue does not have the opportunity to contract. When the patient comes for a final procedure these stitches are removed, the wound again cleansed and explored for foreign bodies. Meticulous care is used in approximating the wound edges. The deep

tissues are approximated with interrupted 000 to No. 2 chromic catgut. Then the skin closed with subcuticular and interrupted dermal. The outside stitches are removed in seventy-two hours and the subcuticular in seven days. The strain is taken from the wound with adhesive bandages.

For a simple depressed facture of the Superior Maxilla, a Caldwell-luc opening is made in the antrum and a window into the inferior meatus of the nose, and the depressed fragments are then elevated with urethral sound. These fragments are held in place with nu-gauze packed firmly in the antrum. If the infraorbital ridge is displaced, this is replaced and a Roger Anderson pin is placed in the fragment and this is held out for twelve days with an extension rod, held in place by a Straith splint. Much better results will be obtained in the simple depressed fracture of the antrum by nu-gauze packing than by placing a pin for extension in the cheek as the latter causes an unnecessary blemish. Pins and other methods of extension should not be placed in the middle of the cheek as this produces extra scarring which too, has to be removed. The zygomatic fractures are always reduced through the intraoral route. Even before the days of penicillin or sulfa, many zygomatic fractures were reduced by this route without infection. I have always made a large incision above the second molar and used a urethral dilator as an elevator to elevate the process. My finger was then inserted internally to determine whether or not my elevation was sufficient. If there had been a clean break, this was sufficient and then a rubber gutta percha was tightly packed under the process. This was sutured and held in place for four days. If the zygomatic process was shattered it was elevated intraorally and packed with rubber. Previous to the days of skeletal traction an incision was made and a hole drilled in the process and an ordinary screen door screw inserted. This was held out with a rod buried in a plaster cap. Now a Roger Anderson pin and a Straith splint are used.

If the hard palate and alveolar process are involved the oral surgeon and the otolaryngologist do an immediate repair, suturing the bony fragments of the hard palate together with cotton sutures. The remaining teeth may be wired together if thought advisable. By using the Straith mouth piece and some dental compound it is astounding how the oral surgeon will mold the hard palate and alveolar process into a perfect functioning process, both from an esthetic and functional standpoint. These badly splintered hard palates and alveolar process fractures will heal if only brought into alignment and immobilized. These cases require the daily attention of the oral surgeon, not only from the standpoint of cleanliness, but also in order that any errors in correction at the time of initial immobilization may be adjusted. These changes can be accomplished much more easily with dental compound than with dental wiring.

If the inferior mandible is fractured in one or more places these fractures are always immobilized first. The reason for such procedure is that the patients feel so much better when they can talk and when food can be utilized. All fractures of the mandible in which there is displacement or floating pieces are immobilized by external skeletal fixation. It was first thought that skeletal fixation should be reserved for edentulous patients or fractures of the angle. It has been found that the condyles can be pinned, aligned and immobilized safely and easily and that all types of fractures of the mandible can be successfully immobilized with perfect control of all fragments and anatomical reposition. There is the advantage of immediate movement of the temporo-mandibular joint and cleanliness of the whole buccal cavity.

One sees cases where the pins were placed too high. They were in the loose tissues of the alveolar process and at all angles. If excellent results are to be obtained the skeletal fixation must be applied correctly. Waldron[9] tells so well how to place the pins:

"The pins are inserted through the skin without incision and through the mandible about 5mm. above the lower border. The pins are placed at an angle of approximately 70 degrees with the new tower chuck. The pin clamps are then applied and connected by a rod and thus a strong and secure fixation of the fragment is assured. A second unit is placed in the adjacent fragment. The displacement is then reduced manually and the fracture immobilized by joining the two units together by means of fixation rod. This appliance can be loosened and adjustments made in the event complete reduction was not obtained at first."

I am enthusiastic about this skeletal fixation. All of my pins have been well placed and healing

Figure 1 and 2 shows Roger Anderson pins placed in inner two-thirds of infraorbital ridge to keep elevation of free fragments.

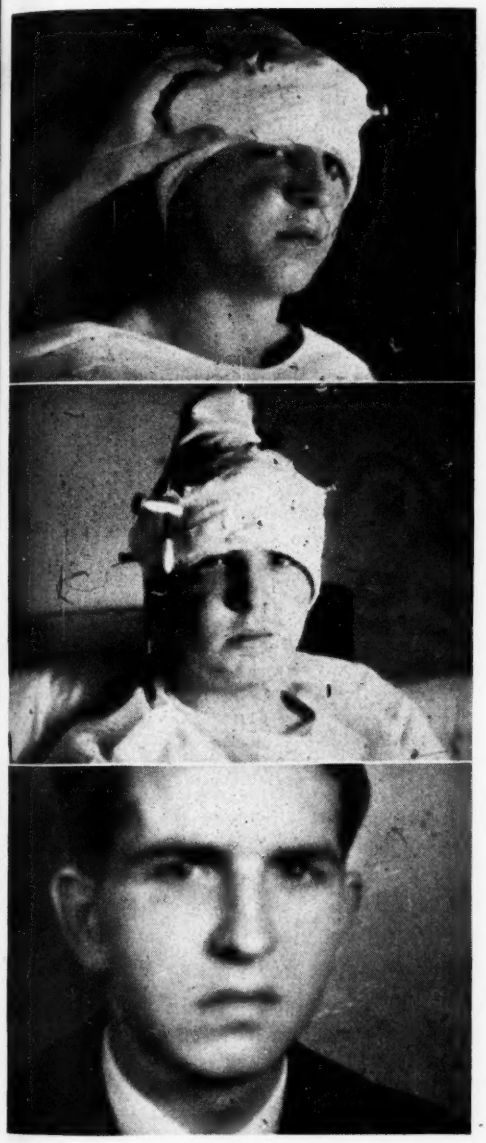
and occlusion have been excellent. I recommend whole heartedly that before the first attempt at pinning condylar fragments, one go to the laboratory. One should place the pins in the attached condyle and then make a window and observe where the pins are placed. Through a skin flap, the condyle on the opposite side should be severed from the mandible with a Gibli saw at the point of fracture in the impending case. Then replacing the skin flap, the pins should be placed in this fragment. By having two pins in the fragment absolute fixation is established and the patient has all motions of his jaw.

All the following cases had their fracture reduced and their skeletal fixation or extension applied and wounds closed under Pentothal anesthesia. The operating time which included taking of x-rays for checking alignment, varied from forty minutes in the angle fractures to three hours and forty minutes in the more extensive injuries.

Case No. 1 (Figure 1 and 2). This case is a young man, age 23, who was severely injured in an automobile accident. Injuries included a crushing of the inner two-thirds of the left infraorbital ridge. Due to the marked swelling the deformity did not show in a photograph. Palpation demonstrated that the anterior surface of the left superior maxilla was crushed, with the infraorbital ridge pushed backwards and downwards well over one-fourth of an inch. Two Roger Anderson pins were placed in this ridge and the ridge held out in extension for fourteen days. The anterior surface of the left inferior maxilla was held out with gauze packing for seven days. The cosmetic and functional results were excellent.

Case No. 2 (Figure 3, 4 and 5) is a boy 18 years of age who came into a head on collision with four other boys while chasing a baseball. He was uninjured other than a depressed fracture of the anterior surface of the right superior maxilla and a marked drooping of the outer one-half of his right infraorbital ridge. A small incision was made over the ridge, a Roger Anderson pin inserted and this was held out for twelve days. The anterior surface of the maxilla was held out with nu-gauze pack which was placed in the right antrum through a Caldwell-luc opening. At the end of six days this packing was removed through an opening under the right inferior turbinate. His result is perfect, with no evidence of injury other than a white line on the right infraorbital ridge.

Case No. 3 (Figure 6, 7, and 8), man age 32, who was struck a downward crushing blow by a tire ring from an explosion of a truck tire. The lower two-third of his nose was completely severed from his face, but was connected by a small piece of flesh at the lower outer angle of his right ala. The anterior surface of his right superior maxilla was completely severed and the bony wall ground to pulp. His hard palate was broken into four pieces. An immediate repair was done under Pentothal anesthesia, shock was treated with heat and plasma. His blood was typed, a donor procured and the patient was given 2000 cc. of blood while he was on the operating table. The bony fragments were replaced and stitched where possible with cotton sutures inside his nose. These were allowed to slough out. The soft parts were brought together, the subcutaneous tissue were sutured with No. 1 chromic catgut, and skin closed with subcuticular stitch, and skin sutures of dermal. The hard palate and alveolar processes were stitched together and braced with low fusing dental compound and further supported by the mouth piece of the Straith splint. The nose was held in place by the internal and external attachment of the Straith splint. The patient's condition was critical



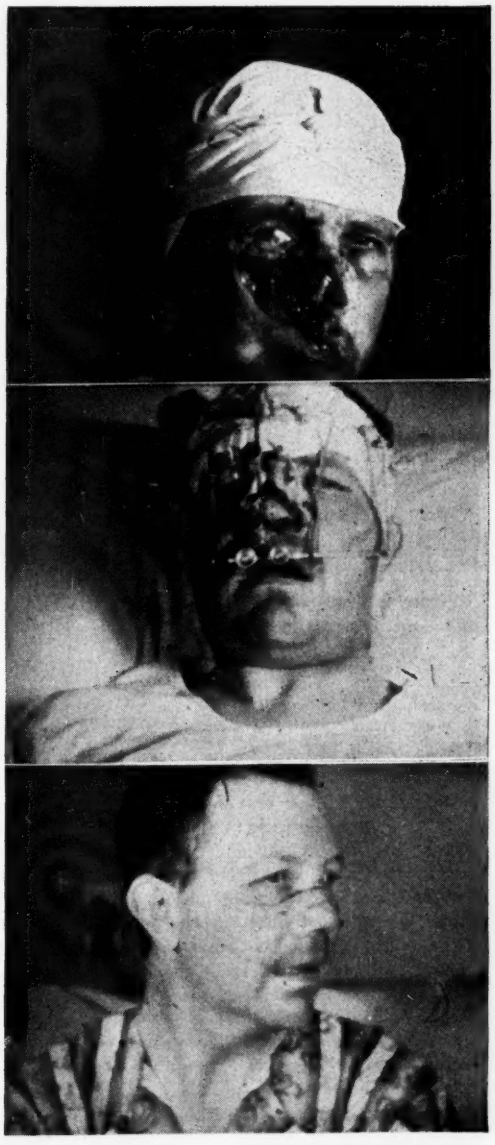


Figure 3 (top) shows depressed fracture of the outer one-half of his right infraorbital ridge with Straith head band buried in plaster cast. Note: Cast extends down and over occiput which keeps it from tipping.

Figure 4 shows patient two days later with antrum packed with nu-gauze and infraorbital ridge held in constant position by extension applied by rod from Straith head band and a pin in the infraorbital ridge.

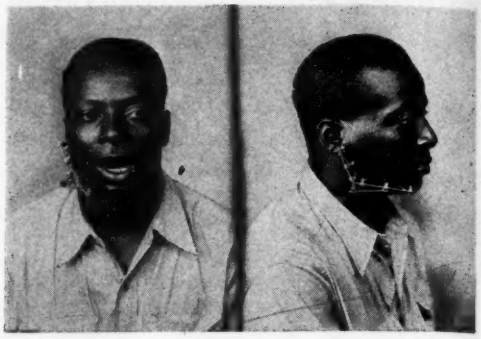
Figure 5 shows the boy three weeks later with perfect results.

Figure 6 (top) shows absence of the lower two-thirds of his nose. The anterior surface of the right superior maxilla is absent.

Figure 7 shows two days later with nose replaced and held in place by nasal attachments inside and outside of the nose. The hard palate fragments are held in place by the mouth piece.

Figure 8 shows same patient eighteen days after the accident.

Figure 9 shows healed carcinoma in the symphysis of the inferior maxilla.



Figures 10 and 11 show immobilization of fractures of the angle and the neck of the condyle with Roger Anderson pins.

for four days. There was terrific swelling involving his scalp, face and neck. His nose and mouth could be kept clean and pressure applied and relieved as the case progressed due to the versatility of the nasal and dental attachments of the Straith splint. The hard palate remained intact bust most of the bone sloughed out, to be replaced with new bone over a two year period. In all this sloughing no true fistula developed. He was released from the hospital in twenty-two days, and at the present time has noticeable scars across his nose and right superior maxilla. There is a slight depression in his right superior maxilla and the nose is not absolutely straight. The tear duct on the right side had been severed and no attempt was made to create a new opening. This should have been done at the time of plastic repair. He does have, however, a very presentable appearance, and a perfect functioning nose and bite.

Case No. 4 (Figure 9) is a woman 69 years of age with a spontaneous fracture of the symphysis of her mandible due to a carcinoma. This fracture was held in place by Roger Anderson pins over a period of seven months. These pins had to be applied two different times as they loosened and came out. The necrotic part of the mandible was curetted and the carcinoma treated with x-ray therapy. After wearing the pins seven months and x-ray therapy the carcinoma disappeared and the whole area epithealized. There were no palpable glands in the neck. At the present time she has all motion of the jaw and eats solid foods. The only difference between this and previous management of similar cancer was the presence of this chrome nickel stainless steel and sulfanilamide. Such an excellent result stimulated Dr. D. L. Murphy to conduct a series of experiments with steel filings plus x-ray in the treatment of carcinoma throughout the body. His results have been interesting and will be published later.

Case No. 5 (Figure 10 and 11) is a man 35 years of age who was hit by a telephone post as it rolled off the truck. His inferior maxilla was broken in two places. The most severe factor was a break of the neck of the condyle and the right angle. These were immobilized with Roger Anderson pins and he was back to work in one month, with perfect occlusion.

CONCLUSIONS

In the last three years twelve fractures of the inferior maxilla have been treated. All were immobilized with skeletal fixation. These fractures were as follows: three of the condyle, two of the symphysis, four of the angles, and three of the mental.

In all cases of the esthetic result has been excellent. In two of the badly shattered cases, where there were also fractures of the alveolar processes and hard palate, the alignment and bite have not been perfect but they are very functional.

Due to penicillin, sulfa, blood plasma and excellent first aid rendered by individuals trained by the Red Cross, many severely injured persons who formerly would have died now recover. All cases of depression of the infraorbital ridge should be given the benefit of extension. Skeletal fixation is the treatment of choice for all fractures of the inferior mandible where there is displacement. the injured patient should be given the best treatment first. This means the cooperation of the general surgeon with a dentist for alignment

and occlusion and with an otolaryngologist or plastic surgeon for treatment of injuries of the nose and the maxilla.

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RECOVERY FROM PRIMARY FRIEDLANDER PNEUMONIA (Type B) On THERAPY WITH SULFADIAZINE AND PENICILLIN

NORMAN T. WELFORD, CAPT., M.C.

Bacillus Friedländer is the cause of from one-half to four percent of all pneumonias. The mortality rate of Friedländer pneumonia varies according to different authors from 71 to 97 percent, an average fatality rate of approximately 84 percent for all reported cases. Obviously the most important problem related to such a highly fatal disease is a therapeutic one. Since there is no known specific therapy for this disease, it seems appropriate to report a case of recovery which followed treatment with sulfadiazine and penicillin.

A 24-year old soldier, with two years' service in New Guinea, sustained a large perforation of the right ear drum following an explosion of an enemy bomb. One week later, on December 30, 1943, he began to have an aural discharge which persisted intermittently with progressive loss of hearing resulting in his being evacuated to the Zone of Interior. His family history was irrelevant. His past history revealed that since the age of two and one-half years, he had frequent upper respiratory infections associated with mild attacks of asthma.

On August 30, 1944, one week after his admission to Mayo General Hospital, he began to cough, complained of headache and had a temperature of 100[2]. On the second day, the cough became more severe and frequent following a chill. His fever rose to 103[4]. The cough came in paroxysms, was nonproductive, and was sufficiently severe to bring to mind the possible diagnosis of pertussis. On the following day, he complained of pain in the region of the sternum, the pain being markedly aggravated by coughing. His respirations were 24. Physical examination revealed wheezing asthmatic breathing and coarse ronchi, heard throughout both sides of the chest. There was impaired resonance over the right lower lobe.

X-ray of the chest on September 1, showed peribronchial infiltration and globular areas of increased density extending inferiorly into the right lower lung field. The x-ray diagnosis was "primary atypical type of pneumonia", (See figure 1). A culture of the sputum taken on the same day and reported two days later was strongly positive for baccillus Friedländer, Type B. The culture also contained some beta haemolytic streptococcus.

Treatment with sulfadiazine was begun September 3. This consisted of an initial dose of 4 grams followed by one gram every four hours with an equal amount of sodium bicarbonate. Due to the fact that the sputum was scanty, thick and mucoid in type, 1½ grams of ammonium chloride was given every four hours. On the following day, the cough was productive of large amounts of mucoid sputum containing considerable blood.

The patient's condition became rapidly and progressively worse so that on September 4, he was dyspnoeic, had profuse diaphoresis, and was quite cyanotic. Physical examination revealed crepitant and sub-crepitant râles with dullness and suppression of breathing over both lower lobes. The temperature was 102[8], pulse rate 110 and respirations were 24. X-ray examination showed a spread in the pneumonic process involving both lower lobes, more marked on the right side. On September 7, our Roentgenologist made the following x-ray report: "There is further extension of the pneumonic process involving the

From Mayo General Hospital.

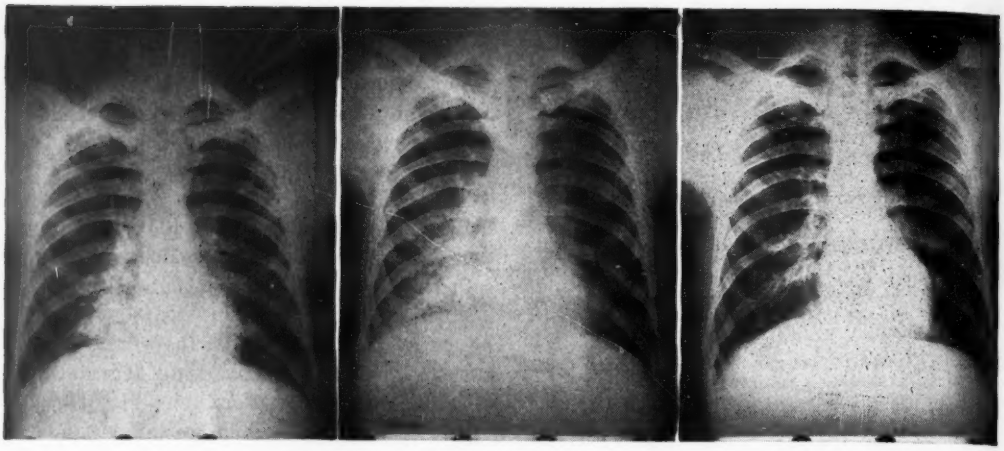

Figure 1 Figure 2 Figure 3

right lower lung field. There are additional patchy areas of increased density extending out to the lateral lung margin, and there is a definite tendency for the previously mentioned patchy areas to coalesce. The progress of the pulmonary involvement to date could well be described as typical of bacillus Friedländer pneumonia." (Figure 2)

At this time, his condition was critical. There was marked cyanosis which involved particularly the face and fingernails. He had spells of choking with a sensation of not being able to get his breath. In addition to extensive rales and dullness, he now had generalized wheezing. Sputum cultures still contained large numbers of Friedländer's bacilli after four days of sulfadiazine therapy.

On September 7, penicillin therapy was instituted by giving 25,000 units intramuscularly every three hours, a total daily dose of 200,000 units. Three days later, the dosage was decreased to 100,000 units daily for a period of four days. The temperature dropped to normal after eight intramuscular injections of penicillin. Beginning resolution of the consolidated areas in both lung fields was observed radiologically after 48 hours of penicillin therapy. There was marked clinical improvement, characterized by decreased expectoration, disappearance of cyanosis, and absence of dyspnoea. The patient began to show an interest in his surroundings and remarked that he felt very much better. Penicillin was discontinued on September 14, after a total of one million units had been administered. Gradual resolution of the pneumonic consolidation continued with complete clearing of the lung fields as evidenced by normal physical and x-ray examinations on September 28. (Figure 3) Sulfadiazine was decreased to four grams per day on September 13, and discontinued entirely on September 28.

Additional laboratory examinations performed during the acute stage revealed three negative blood cultures on specimens of blood drawn before chemotherapy was instituted. The white blood count varied between 5,700 and 11,700. The blood level of sulfadiazine during therapy averaged 9 mgm per 100 cc. Repeated sputum cultures were negative for tubercle bacilli. Susceptibility tests made in vitro indicated that this organism was non-susceptible to both sulfadiazine and penicillin. It was similarly noted in earlier observation made in this hospital that certain organisms, non-susceptible to penicillin in vitro, proved to be quite susceptible in vivo.

Despite the fact that the patient made a complete recovery from Friedländer pneumonia, he continued to have baccillus Friedländer in the sputum. Cultures of sputum taken five months after all evidence of abnormal pulmonary findings had disappeared, were still positive.

COMMENT

Perlman and Bullowa reported a case of recovery from bacillus Friedländer pneumonia, Type B, following the combined use of sulfapyradine and Type II anti-pneumococcus serum[1].

The same authors in a review of thirty-seven cases of Friedländer pneumonia, eight of which were Type B, concluded that the administration of anti-pneumococcus serum, sulfanilamide, sulfapyridine or the combination of serum wth either of these two sulfa drugs seemed ineffectual in treating patients with this infection. Meyer and Amtman[2] reported a recovery in a case of bacillus Friedländer septicemia following the use of sulfapyradine.

Larsen[3] reported a case of recovery from severe bacillus Friedländer pneumonia after penicillin therapy was started on the eighth day of the disease. The drug was given intramuscularly in a dosage of 200,000 units per day. Recovery was reported as "dramatic."

In the case we have described, the infection spread rapidly during the first few days of illness. For four days, adequate sulfadiazine therapy was administered without effect. Recovery was dispaired of on the seventh day, at which time penicillin was started. Improvement was so decisive and spectacular within twenty-four hours, that penicillin seemed to play the role of a life saving therapeutic agent. This dramatic response attributed to the use of penicillin is somewhat surprising and quite contradictory to the commonly accepted fact that bacillus Friedländer is not a penicillin susceptible organism. The writer has no explanation to offer for this apparently parodoxical observation. The fact that at least one other case of Friedländer pneumonia "at the point of death" recovered when penicillin was the only therapy used, is significant[3]. It is also tenable that in our case, since sulfadiazine was continued in conjunction with penicillin therapy, there may have been synergistic action of these two chemotherapeutic agents. Such synergistic action of penicillin and sulfa drugs against certain penicillin resistant organisms has been demonstrated in vitro studies[4].

It would seem, therefore that the treatment of bacillus Friedländer pneumonia with penicillin either singly or combined with sulfadiazine is justifiable. Only when a sufficient number of such cases has been so treated and the result placed on record, can this method of therapy be fully evaluated.

SUMMARY

1. The clinical course and radiologic findings of a patient with bacillus Friedländer pneumonia are described.
2. Recovery took place following treatment with combined sulfadiazine and penicillin therapy after treatment with sulfadiazine alone proved non-effective.
3. The possible synergistic action of these two chemotherapeutic agents in Friedländer pneumonia is suggested.
4. Penicillin seemed to play the major role as a life-saving therapy in this case.

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A RORSCHACH STUDY OF SYMPTOMATIC SCHIZOPHRENIA FOLLOWING BRAIN TRAUMA

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MANTENO

The Rorschach literature dealing with the so-called "organic" diseases of the nervous system was, until recently, relatively scant.* Rorschach[27] made a few personality studies of persons with various types of organic psychoses, but he never attempted to present his findings as-a-whole in a systematic manner. Beck[1] in 1937, pointed out the paucity of information concerning these diseases. Since that time, Harrower-Erickson[13, 14, 15] has made pre- and post-operative studies of groups of patients with organic brain lesions such as tumor and focal epilepsy; Nadel[21, 22] has also reported the same type of studies on patients with brain tumors; Klopfer and Tallman[19, 20] have reported two

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*For those persons who desire more detailed information on the Rorschach test, see especially the manuals of Beck[1], Bochner and Halpern[3], Klopfer and Kelley[18], or the files of the Rorschach Research Exchange.

Rorschach studies on Brickner's[6] patient, Mr. A. who had a bilateral frontal lobectomy. The greatest amount of work in this field has probably been done by Piotrowski[23], [24] with all types of organic brain pathology, including a study[25] of one of Goldstein's[11] Pick's Disease cases. Recently, Brussel, Grassi, and Melniker[9] have made a study of postconcussion cases among the personnel of the armed forces.

In discussing the response pattern of patients with organic brain lesions, the question arises: Is there a certain pattern of responses characteristic for organic brain disease? Beck[1] is unable to distinguish any significant trends in the response pattern of "organic" patients. On the other hand, Piotrowski[23] has posited ten signs that characterize the Rorschach response pattern of an "organic" patient. Of these ten signs, six of them should appear to definitely establish a positive diagnosis of organic brain disease although the absence of the necessary number of signs does not mean that organic brain disease is not present. Piotrowski's ten signs are as follows: (1) a small number of responses — less than 15; (2) average time per response more than one minute; (3) a total of less than two movement (M) responses; (4) the presence of at least one pure color response (Cn); (5) the percentage of good form responses (F+%) below 70; (6) less than 25% of the total responses of the "popular" (P) type; (7) repetition or the giving of the same response to several ink blots; (8) impotence or the giving of a response in spite of the recognition of its inadequancy; (9) perplexity associated with distrust of one's own ability and the quest for reassurance; and (10) automatic phrases or the frequent use of a "pet" phrase in responding.

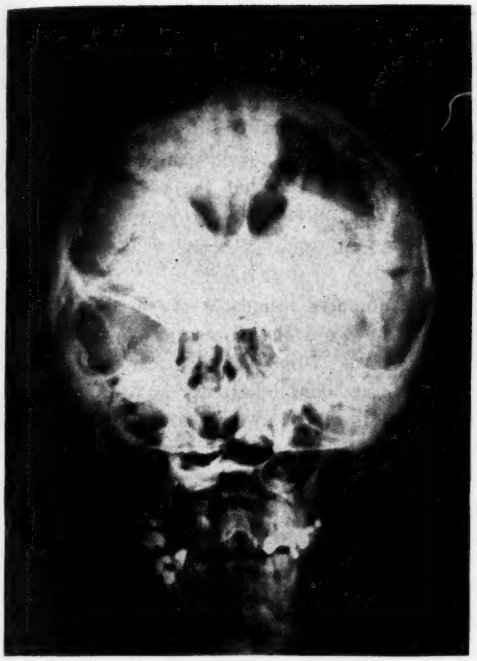
Having established a Rorschach pattern for "organic" patients in general, the next question that arises might be: Is it possible to make a differentiation between the Rorschach patterns of patients with post-traumatic lesions and frontal lobe lesions from other types of "organic" patients? Brussel, Grassi, and Melniker[9] have shown that such a differentiation is possible. Post-traumatic cases are distinguished by the presence of: (1) more than one movement (M) response; (2) some pure color responses (C) and the possibility of color shock which may vary on retesting; (3) shading responses (almost pathognomic if more than 3) (4) confabulatory responses (DW); and (5) many small detail (Dd) responses (10-25% slight, 26-32% moderate, over 50% severe lesions). Although these signs have not been established for certain, a frontal lobe lesion may possibly be established by the presence of the following signs: (1) the patient has great difficulty in relating his concept to some area of the blot, and (2) he is unable to improve his performance on a retest or when requested to do so.

Now for a consideration of the case in point. As a child, the patient received a severe trauma to the frontal bone. Years later, as an adult, she showed pronounced symptoms characteristic of paranoid schizophrenia. The question for the diagnostician is: Is this a case of "functional" paranoid schizophrenia or does the present personality picture have a causal relationship to the earlier trauma? Furthermore, even though the presence of organic pathology can be clinically demonstrated, is it possible satisfactorily to make a differential diagnosis by means of the Rorschach test? To get an answer to these questions, here are the clinical history and medical findings.*

At the time of examination, the patient was 28 years old. No hereditary trends were elicited. She was healthy to the age of 11 at which time she was struck by the pointed end of an umbrella which pierced the frontal bone above the right eyebrow. She became unconscious and was immediately operated on a depressed skull fracture which did damage to the underlying brain substance. The patient was unconscious for about two weeks, made a slow recovery, and was paretic on the left side — residual of which is still present. Her mental development appeared at first not markedly retarded. She completed grammer school and had about 1½ years of high school. The interval between the age of 11 and her early twenties was filled with long hospitalizations, orthopedic surgery, and neurologocial checkups. The findings of a pneumoencephalography in St. Luke's Hospital, Chicago, in 1938 are shown in the accompanying illustrations.** The pictures show an absence of bone in a triangular area of the right half of the frontal bone. The ventricular system is filled by means of air. The right and left anterior horns are displaced toward the right. The left one is slightly dilated. From the anterior

*I want to express my deep apprecation to Dr. W. R. Kirschbaum for aiding me greatly in the presentation of the medical data contained here.

**I want to express my gratitude to St. Luke's Hospital, Chicago, for allowing me to use their technical and medical findings for this paper.



portion of the right ventricle, air extends upward to the vertex and outward and downward between the frontal lobes and the internal table of the skull. This is due to porencephalia. There is evidence of atrophy involving the right hemisphere and in a lesser degree, the left hemisphere. From the last neurological examination, it appears worthy to mention slight disturbances in motor coordination, occasional twitching of her legs, and very rare "spells" of unconsciousness.

Her complaints started in the past five years and were marked by headaches and dizziness. Personality changes began to be discernable at the age of 23. She lost her former interest in all activities and became inactive and withdrawn. Various paranoid trends were quite marked. She thought people were watching her and that her mother was attempting to poison her food. She complained that people took her words, twisted them around into a special meaning, and said them back to her. She felt influenced by the radio. She thought her physician had influenced her and that he might have tampered with her sexual organs. Her clothes and other aspects of her environment all had special meanings for her — as an example, a red dress signified menstruation — other people were aware of her menstruation and discussed it behind her back. When the patient entered Manteno State Hospital, there was no satisfactory anamesis and her organic findings were much less pronounced than they are now.

This patient was given the Rorschach test on 1/26/42 and retested on 4/1/43 — 15 months later. The results on the retest were practically the same, indicating a degree of reliability in the test findings, except for two important changes.

The large number of responses (R—67, 85)* given by this patient would seem at first glance to reflect a great amount of personality productivity. Over half of these responses were perseveration on human detail responses (Hd%—58, 63) and when "allowance" is made for this, the productivity falls more or less within "normal" limits. On both tests, the average time per response was less than thirty seconds. The low percentage of good form (F+%—63, 37) in the responses indicates that the patient has poor intellectual control and that she is not in good contact with reality. Here we should note a distinct decline in the percentage as between the first and second tests. Another clue to the quality of "thinking" is the number of movement responses (M—5, 1) which reflects the capacity for producing creative fantasy. On the first test, the patient showed a "good" capacity for creative fantasy but on the second test, this had largely disappeared, accompanied by a slight increase in animal movement responses (FM—1, 2). Schizophrenic or delusional thinking is revealed in the production of confabulatory responses (DdD—3, 6); there was an increase in this type of response on the retest. This whole trend reflects a distinct trend

*In presenting the precise numerical findings for each of the scoring categories which are in parentheses, the first number is the result on the first test; the second number is the result on the retest.

toward an impoverishment of mental life — a trend toward deterioration.

Emotionally, the patient's responses show an increasing trend toward "instability." The presence of color-form responses (CF—2, 3) indicate that she is emotionally impulsive, irritable, and suggestible.*

This is not balanced by enough of the form-color responses (FC—2, 0) which reflect an emotional life that is in good rapport with the demands of reality. A comparison of the two tests shows an increase in the color-form responses and a decrease in the form color responses. The production of three shading responses on each of the two tests reveals some feelings of personal inferiority, anxiety, and perhaps depression.

One of the most striking and interesting features is that out of all her responses, she was unable to give a single whole response. This is unusual as most persons can produce at least one or two whole responses on the first five or six blots. The patient produced, instead, a fair percentage of detail responses (D%—49, 42) and a very high percentage of small detail responses (Dr%—51, 51). This indicates that she is able to respond to only very limited segments of the world around her. This same trend is reflected in the low organization score (Z score—9.5, 12) which shows little ability to see relationships.

There are a number of studies[1], [2], [10], [16], [18], [26], [27], [29] on the responses of schizophrenics on the Rorschach test. In this case, there are many signs that suggest the pattern of a schizophrenic personality. These are: the low percentage of good form, confabulatory responses, a variability in the quality of the responses, low percentage of popular responses (P%—3, 6), the presence of some responses that referred directly to the patient, perseveration, and the ratio of movement and color responses. Ordinarily, in schizophrenics, there is a predominance of color responses but in paranoids there is a predominance of movement responses. The first record reflects the distinct paranoid nature of the disease.

Although the test results reveal this schizophrenic pattern, closer analysis indicates that this is predominately an organic case. Seven of Piotrowski's ten signs are present. They are: total of less than two movement responses (this was true of only the retest), low percentage of good form, low percentage of popular responses, repetition, impotence, perplexity, and automatic phrases. The last-named signs were evidenced in part, by the fact that the patient would repeat rather helplessly from time to time, "All I see is faces," and add, "I don't seem to see much else."

Post-traumatic lesions were revealed by the presence of more than one movement response (this was true of only the first test), three shading responses, confabulatory responses, and very many small detail responses. According to Brussel, Grassi, and Melniker[9], the high percentage (51%) of small detail responses emphasizes the severity of the lesions. Lesions of the frontal lobes are indicated by the patient's "poorer" not "better" performance when retested, and because of her great difficulty in relating her response to the blot. Time and time again, she would say that she saw a face but when asked to locate it, she would pick out some tiny part of the blot and say that the face was there, but she was unable many times to relate any of the parts of the face to any part of the blot.

We are often confronted with the problem of an organic case that shows schizophrenic-like features. From the standpoint that one considers that all problems concerned with thinking and behavior involve an underlying physiological correlate, one can agree with the psychologist, J. F. Brown[8] that, "Every behavior problem is at the same time a physiological, or organic-medical, and a psychological or psychiatric problem." The problem for the psychiatrist or psychologist is the one of the relative emphasis to be given to the organic and functional aspects. In spite of the fact that the physician may often succeed with his clinical approach, there are cases left where the psychologist may make a definite contribution toward arriving at a diagnosis.

An old persistant problem which is similar to the one presented in this paper, is that of the paranoid hallucinatory states often seen after malaria treatment in general paretics.* By the

*The patient gave no pure color (C) or color naming (Cn) responses.

*See Bostroem[4], [5], Rothschild[28], and von Angyl and Gyarfas[31].

use of the Rorschach test, we may throw some light on the problem of whether or not the paranoid process is the result of a "true" schizophrenic process or whether it is causally related to known underlying organic pathology.* This same problem is also present with respect to alcoholic hallucinatory states and in special presenile and senile psychotic symptoms.

Not only in this case of brain trauma, but in all the above-mentioned organic diseases, speculations arise as to the production of schizophrenic-like symptoms and their localization in the frontal lobes. Our case gives a fairly good insight into some aspects of frontal lobe functioning. The Rorschach test reveals that this patient is able to react to only very limited aspects of her environment; her ability to perceive and react to large integrated wholes or total situations has been lost. Coupled with this pedantic pre-occupation with details, we have seen the growth of a schizophrenic type of thinking. She reacts to some detail of her environment as if it were a larger whole or situaion. As an example, she says in effect, "People are talking, hence, they are talking about me," or, "The dress is red, hence, it refers to menstruation."

Brickner[6, 7], Grinker[12], and Tilney and Riley[30] have pointed out that it is in the frontal lobes that our thoughts are "synthesized" or organized. The fundamental theoretical assumption is the old mechanistic one that mental activity is a matter of organizing or associating discrete bits of experiences into a meaningful whole or pattern. The author prefers to use the more Gestalt or organismic terminology of R. H. Wheeler[32] who says that all experience and all things in nature are already organized. The problem for the psychologist then is the qualitative and quantitative structure of a situation to which one is capable of reacting. We have seen that this patient is capable of reacting to only a very limited situation as she has lost her capacity for "synthesizing" or reacting to large complicated situations because of her frontal lobe damage. The growth of the schizophrenic process is related to this pre-occupation with details of her environment as we have seen that she reacts to a detail of a situation as if it were the total situation. These findings, then, would seem to suggest that "thinking" and schizophrenia are primarily matters of frontal lobe localization.

*Kenyon, Lozoff, and Rapaport[17] have used the Rorschach test to give a personality picture of this type of patient before and after metrazol treatment.

SUMMARY

1. The use of the Rorschach test in the field of organic brain disease was discussed.

2. The history and clinical findings were presented.

3. The Rorschach results were presented and a differential diagnosis was made.

4. Certain implications for frontal lobe functioning were discussed.

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DISCUSSION

Phyllis Wittman, Ph.D. (Elgin): Mr. Endacott's Rorschach evaluation of the case presented is a very interesting one although difficult to discuss since it is a descriptive analysis of just one case.

However, the main question that occurs to me is why the diagnosis of paranoid schizophrenia should be brought up at all, in this case. The patient has a history of severe brain trauma seventeen years previous, with a left-sided paralysis as a sequella, which I gathered is still present. Five years previous to State hospitalization, she complained of headaches and dizziness, and certain personality changes were noticed at that time.

That this organic process appears to be a progressively deteriorative one is evidenced by the fact that at the present time she has disturbances in motor coordination, occasional twitching of her legs and periods of unconsciousness as described in the paper. Consequently, it would seem to me that Morgan's law of parsimony alone requires the diagnosis of organic brain disease with psychosis and rules out the diagnosis of functional schizophrenia even without the aid of the Rorschach findings.

We know that many organic cases, — paretic, arterio-sclerotic, and epileptic, — as well as cases of organic brain disease may show psychotic symptoms similar to those considered characteristic of schizophrenia. We would not, however, for this reason consider diagnosing the syphilitic meningo-encephalitic as a case of functional schizophrenia.

In other words, the problem does not appear to me to be "the relative emphasis given to the organic and functional aspects" but merely a problem of emphasizing the etiological factors which in this case seem fairly clear.

The value of the Rorschach test would have been more convincingly demonstrated in this case if a diagnosis of organic brain disease had been made in the absence of anatomical or neurological evidence and if this Rorschach diagnosis had been subsequently verified.

In view of the patient's inability to react to integrated wholes or total situations on the Rorschach, it would be interesting to see if her reaction to such tests as the Haufman Kasanin Concept Formation scale and the various tests of abstract thinking used by Cameron, Goldstein, Halsted and others would not also yield results pathognomonic of an organic brain condition.

C. A. Neymann (Chicago): Whenever this type of a discussion takes place it leaves me somewhat mystified. To say the least it is peculiar that medical men and especially psychiatrists have not delved into the root of the evil of nomenclature. On rife deliberation one must come to the almost inevitable conclusion that all nomenclature is purely artificial.

It would seem that it makes little if any difference whether a patient is classified as a schizophrenic with manic features or as a manic with schizophrenic features. From a broader viewpoint it does not help the patient one whit to be dubbed either manic depressive or schizophrenic.

It is more than academic, it is purely medieval mysticism to try and distinguish between organic brain disease resulting in schizophrenic features and organic brain disease with a super-

imposed schizophrenia, perhaps the result of some vague psychogenic trauma.

All this is just a play on words. The important thing is that the patient has developed an organic brain disease; that this organic brain disease is progressive; and that during the progress of the disease the patient expresses various bizarre ideas. Whether one calls these symptoms schizophrenic or manic depressive or anything else remains a pure psychic gesture.

Whenever an organic brain disease produces psychopathological thoughts, or symptoms these react along the lines of the individual's least mental resistance. Thus, as is well known, a general paretic, who develops a psychosis will follow the pattern of his personality in his psychosis.

It would seem to be very doubtful whether this Gordian knot produced by such ingenuous quibbling can be unraveled by the Rorschach test. The Rorschach test was standardized on neurotic and psychotic, feeble-minded, bizarre and so-called average individuals. These had been classified by a psychiatrist. Previous to this he had convinced himself that these types represent clear cut outspoken entities.

My own experience has taught me this. The Neymann-Kohlstedt test was formulated on the same basis. It is but an expression of what I think of the schizophrenic and manic depressive problem.

Therefore, the entire discussion, though interesting, is less valuable than a clear description of the patient's symptoms which would be much more informative and helpful.

J. L. Endacott, M.A., Manteno (closing): I should perhaps have explained to Dr. Wittman that a ten minute time limit prevents my saying much, and had it not been for brevity of time, I should have said that in diagnosing such a case we knew that on one hand here is the organic injury at the age of eleven and on the other here are the schizophrenic symptoms at the age of twenty-eight. Now are we justified, on the strength of that in presuming that the schizophrenic symptoms are therefore on an organic basis? If the schizophrenia had come on somewhat sooner after the original trauma, the problem would have been much different.

Also we should not overlook the fact that in this case there are possible psychogenic features involved, — the fact that she had all these hospitalizations, the sexual content of her delusions which might have been rather meaty for a psychoanalyst, and so forth. There are various things then to indicate that there are some psychological as well as physiological factors involved.

Some persons perhaps would find it easy to say, "Well, this is organic brain disease — here is the trauma at age eleven." But at the same time, when we made the diagnosis we weren't quite sure whether we were justified in assuming that since the cause and the effect were spread so far apart in time, the cause and effect did have a positive relationship.

Also I would like to point out in this connection, as has been pointed out before, that when one does get an organic brain disease, the disease many times follows the general pattern of the personality. For instance, it is well known that about ten percent of all individuals go into a state hospital. About ten percent of all syphilitics develop paresis. It has been said that persons who become paretic are merely individuals that would have become psychotic anyway, and that the spirochete merely is implicated in a little bit of what has been called "somatic compliance."

I don't defend that statement; I merely point it out.

In answer to Dr. Neymann, I would like to say that his remarks are quite well taken, too. I do think too much can be said for what the Rorschach test can do. I think that it can only aid in cutting this Gordian knot; I don't think it is any panacea or any last minute answer to any problem. On the other hand I think it is one of the most fruitful techniques we have at present and that it has certain definite advantages over pencil-and-paper tests, but that is another problem which we shouldn't discuss here.

All in all I appreciate the remarks and consideration of the various discussants who have made remarks on my paper.

HUMAN ORNITHOSIS

Report of Case Treated with Penicillin

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This disease was first described by Ritter in Switzerland in 1879. He noticed that it occurred in homes where birds were kept as pets. Finding the patients in a typhoid-like state but with definite pneumonic changes, he called the disease "Pneumotyphus". In 1892 the disease appeared in Paris following the importation of parrots from South America. Paris had another outbreak in 1894 which caused many deaths. It was quite evident by this time that the infection was definitely associated with exposure to tropical birds of the parrot family, so Morange suggested psittacosis as a suitable name for the disease. Later investigation showed that other tropical birds of the psittacine species such as parakeets, love birds, budgerigars, cockatoos, and

macaws could be infected and could transmit the disease. "Ornithosis" has recently been suggested as a name for the infection when acquired from birds not belonging to the psittacine group.

In 1929 and 1930 one hundred and sixty-nine cases of psittacosis were reported in the United States following the importation of diseased parrots from South America. The mortality in this group was nineteen percent. During this period a great amount of research work was done on various phases of the infection in this country and in Europe. Different organisms had been suspected as the causative agent but none had been definitely found guilty. In 1930 Bedson and several other investigators showed that a filtrable virus was the true infective agent. In 1930 Krumwiede and associates showed that white mice could easily be infected with this virus. In 1930 and 1932 Rivers and Berry infected monkeys with the virus, producing the typical pneumonic changes, and also used mice in testing for the virus in human sputum. Mice were used recently by Heilman and Herrell at the Mayo Clinic in checking the therapeutic value of penicillin in this infection. Forty mice were inoculated with the virus and soon afterward received penicillin which was continued for seven days. The mortality in this group was five percent. A control group of forty mice were inoculated with the same virus but received no penicillin. The mortality in this group was eighty-eight percent.

The virus is found in the nasal and bronchial secretions and in the droppings of infected birds. It is capable of standing prolonged drying and can be carried considerable distances by air currents, thus possibly transmitting the infection.

It was generally assumed that only birds of the parrot family harbored the infection, until 1941, when Dr. Karl Meyer found a virus, similar to that causing psittacosis, in the lungs of a patient who was exposed while caring for a flock of homing pigeons. Sixty-three percent of the birds in this group showed positive complement fixation tests and the virus itself was isolated from twelve percent. Dr. Meyer also showed that canaries may harbor the disease. Chickens, doves, finches and the common barnyard pigeon can be infected and may transmit the disease. Dr. Meyer states that the infection never spontaneously disappears when once established in a group of birds. He suggested using the name "Ornithosis" for infections acquired from birds not belonging to the psittacine group. The pigeon is apparently the most common carrier. Until recently all human cases caused by pigeons have been reported from the Pacific and Atlantic Coast States. Turgasen of Manitowoc, Wisconsin, reported a case occurring in August 1944 in a pigeon fancier, who had inhaled considerable dust while cleaning the loft where his homing pigeons were kept. The case reported below occurred in December 1944 after a contact with common pigeons killed along the Illinois-Indiana line. Hence the disease is now established in the Middle West. Both of these cases were treated with penicillin and according to Dr. Herrell of the Mayo Clinic were the first in which this treatment was used.

Pigeon flocks wander from farm to farm and from town to town. This makes it easy for them to spread the infections. Their droppings may contaminate farm feeding lots and cause infection to poultry. Hogs are susceptible to respiratory diseases and it is possible that ornithosis virus in contaminated feed lots may be responsible for some epidemics occurring in these animals.

Psittacosis or ornithosis causes a group of symptoms and other findings, which are very similar to those associated with pneumonias of non bacterial origin usually referred to as "primary atypical pneumonias" or "virus pneumonias". The possible relationship of these pneumonias and ornithosis opens up an interesting field for investigation. In 1943 Smadel reported that 25% of the atypical pneumonias which he had studied were due to psittacosis virus. Meyer says, "with such a vast reservoir of ornithotic virus available everywhere, one wonders why many sporadic atypical pneumonias are not in some way connected with these sources". Since 1935 primary atypical pneumonias have been variously referred to as acute influenzal pneumonia, acute pneumonitis, disseminated focal pneumonia, acute interstitial pneumonia, virus pneumonia and atypical broncho pneumonia. The lung changes in these cases and in ornithosis are mostly interstitial in character with the lesions being found in and around the walls of the bronchioles and alveoli. The incubation period in ornithosis and in the

atypical pneumonias averages from one to two weeks. The symptoms and signs are much alike in both diseases. The onset is much like that of influenza and is usually sudden but may be gradual. The pulse and respiratory rates are slow compared to the fever range and this is particularly true in ornithosis. The physical findings in the lungs are minimal at first. However the x-ray films show accentuation of the hilar shadows early in the illness before physical examination discloses anything. Later the hilar shadows fan out towards the periphery especially in the lower lobes. Fine moist rales may be heard at this time over the involved areas and changes in the breath sounds may appear. Pleural pain is rare. Cough is often entirely absent in the early phases of the disease. In some cases it is productive and very annoying in the later stages. The patients are often very nervous, complain of violent headaches, are restless and delirious and get little sleep. Abdominal distress and constipation are common. The tongue frequently shows a thick white coat. The average duration of the attack is about two weeks but may extend to four or five weeks in severe cases. Rapid pulse and respiratory rates indicate a bad prognosis. The changes in the lungs are easily missed entirely if the x-ray is not used, the patient and the doctor both thinking that the condition is a mild or moderate upper respiratory infection or influenza.

Report of Case: Mrs. E. L. C., a white woman aged 52, cleaned and dressed six barnyard pigeons on November 24, 1944. One thumb was punctured by a bone splinter while cutting off a wing. There was no inflammatory reaction around this puncture and it probably had no bearing on the infection which followed. On December 2nd, eight days after dressing the pigeons, she suddenly became very ill, had chilly sensations, general malaise and severe headaches. The general physical examination was essentially negative and no diagnosis could be made. Tularemia was considered as she had also dressed quails and rabbits in November. No primary ulcer or enlarged lymph nodes were present which eliminated anything except the typhoid type of tularemia. Subsequent agglutination tests up to six weeks after the attack ruled out this disease. Her fever ranged from 101 to 105 with no change in physical signs whatever until December 10th, when a few moist rales were noticed in the right lung posteriorly near the angle of the scapula. By December 12th there was a distinct area of consolidation about the size of a silver dollar in this region. Moist rales were heard around this area. The cough was slight and non productive. There was no pleural pain whatever. Other than the physical signs there was nothing to make one suspect any pulmonary disorder. Restlessness, nervousness and headache dominated the picture. There was considerable mental confusion and delirium and the patient appeared to be very ill. The respiratory rate and pulse were slow throughout the illness. The pulse once reached 128 when the temperature was 105. The respiratory rate was rarely over 20. The RBC count was 3,500,000 and the hemoglobin 60%. The white blood cell count was never over 8000. Blood samples were sent to Dr. K. F. Meyer, University of California, who reported that the sera specifically fixed complement in serum dilution of 1:128 (4 plus) and 1:256 (3 plus) when tested by the complement fixation test with psittacosis antigens.

During the early part of the illness the patient received adequate doses of sulfadiazine without effect. Other drugs had only a palliative effect. One ASA compound capsule every 2 hours helped to allay the headache and control the fever. If these capsules were left off the fever soon reached 104 or 105 degrees. Penicillin was started at 10 P.M. on the 10th day of the disease. The fever was 105 at the time and was still 104.5 at 7 A.M. the next morning, after which it dropped rapidly. She received 20,000 units, followed by 10,000 units every 3 hours until 500,000 units had been given. Within 48 hours the temperature was running between 99.5 and 101 degrees and in another 48 hours it was normal and remained so. The patient's sense of well-being improved as soon as the penicillin was started. The troublesome headache and restlessness soon disappeared. This improvement may have been purely coincidental, but the rapid recovery in such a severe and alarming infection, following the use of this drug, makes me feel that it should be tried in infections of this type in order to determine its status. The improvement in this case and in that reported by Dr. Turgasen indicate that we may have a remedy in penicillin which will reduce the death rate in this disease.

This patient's recovery after the penicillin was started was uneventful. The lung involvement cleared up rapidly. However she was very slow in recovering her strength, being confined to bed for four weeks. She had a mild microcytic hypochromic anemia prior to her illness which increased while she was ill. This quickly disappeared on using iron.

CONCLUSIONS

1. Pigeons in this part of Illinois and Indiana are infected with ornithosis virus.

2. These birds roam at large over the country side and may infect other pigeon flocks, poultry and possibly other livestock on the farms.

3. Any individual handling the infected birds or inhaling dust contaminated by their droppings may acquire the disease. Poultry and farm ani-

mals may also prove to be a source of infection.

4. In any acute lung infection which proves to be of non bacterial origin (atypical or virus pneumonias), psittacosis or ornithosis should be considered.

5. Penicillin may prove to be of great value in controlling the disease.

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X-RAYS SHOW UNBORN CHILD OF 12 WEEKS BREATHES, SWALLOWS

Two Chicago Doctors Demonstrate Beginning Of These Important Functions In Two Groups Of Pregnant Women

Two Chicago doctors have demonstrated by means of a dye and x-rays that the important functions of breathing and swallowing develop as early as the 12th week in an unborn child.

Writing in the August 10 issue of *The Journal Of the American Medical Association*, the authors—M. Edward Davis and Edith L. Potter from the Department of Obstetrics and Gynecology, the University of Chicago School of Medicine and the Chicago Lying-in Hospital — state that these experiments were carried out on two groups of patients: one made up of 16 women, who because of some serious maternal complication, had to have their pregnancy terminated in the first half of the period and the second consisted of 10 women who were delivered by a cesarean operation.

The dye, opaque to x-rays, was injected into the sac containing the fetus. From 17 to 52 hours later the pregnancy was terminated and the fetus was sent to the x-ray laboratory. The first group of fetuses showed the dye in all parts of the lungs, in the stomach and throughout the intestinal tract, demonstrating that the fetus aspirated the fluid within the sac and exhaled it. Thus there is evidence that the fluid normally moves in and out of the lungs.

The second series of patients, who were delivered by cesarean operation, were treated in the same manner. X-ray examination of the infants' lungs immediately after delivery showed evidence of the dye in five, probable presence in two and no definite evidence in three.

The authors point out that the "general pattern of respiratory activity is developed very early in fetal life.) During this period the respiratory movements are intermittent, irregular and shallow. "At birth air is substituted for fluid, and respirations become deeper, regular and continuous, but the pattern remains the same. The major change involves the substitution of air for fluid as a medium of exchange."

In Conclusion Drs. Davis and Potter state that "fetal swallowing and complete gastrointestinal activity has been demonstrated for the first time in a human fetus (12 weeks old) weighing 39 grams."

News of the State

PERSONALS · COMING EVENTS · MARRIAGES · DEATHS

POST-GRADUATE CONFERENCES

ROCKFORD, ILLINOIS
OCTOBER 9, 1946
NELSON HOTEL

Anfin Egdal, M. D.-Presiding

2:00-3:00 P.M. — Carlo Scuderi, M. D. —"Repair of Major Bone Defects by Bone Graft Surgery"
3:00-4:00 P.M. — I. Treiger, M. D. — "Frequently Encountered Heart Conditions"
4:00-5:00 P.M. — Carl A. Dragstedt, M. D. — "Therapeutics of the Newer Drugs"
5:00-6:00 P.M. — Hans H. Reese, M. D. — "Trends and Progress in Neurology and Psychiatry"
6:30-7:30 P.M. DINNER at the Nelson Hotel — Doctor Edward H. Weld, Presiding
8:00P.M. — Address on "Surgical Problems of General Interest"—Lester R. Dragstedt, M. D., Professor of Surgery, University of Chicago.

Local Committee in charge of arrangements:

J. Howard Maloney, M. D. — Chairman
E. H. Quandt, M. D.
D. H. Wrork, M. D.
Arthur Pearmon, M. D.
P. A. Anderson, M. D.
Fred Norten, M. D.

All doctors of northern Illinois are cordially invited to attend this meeting. The program has been planned to appeal to men in general practice.

QUINCY, ILLINOIS
OCTOBER 10, 1946
LINCOLN-DOUGLAS HOTEL

Dr. Walter Stevenson, Presiding

2:00-2:45 P.M. — "Common Fractures"
2:45-3:30 P.M. — "The Diagnosis and Treatment of Common Blood Disorders"
3:30-4:15 P.M. — Surgical subject
4:15-5:00 P.M. — "Therapeutics of the Newer Drugs"
5:00-5:45 P.M. — "Coronary Disease"
6:30 P.M. —Social and Dinner Hour
8:00- Robert S. Berghoff, M. D. — President, Illinois State Medical Society
Harold M. Camp, M. D. — "Where Do We Go From Here" — Secretary Illinois State Medical Society

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BUREAU COUNTY

Dr. J. W. O'Malley who served in the army two and one-half years will reopen his office in Ohio, Illinois, this fall.

Dr. Nicholas Chick after three years service in the army has opened an office in Spring Valley for the practice of medicine.

CARROLL COUNTY

Savanna has been selected for a state tuberculosis sanatorium authorized by the general assembly at the last regular session. The legislature authorized the construction of five sanatoriums, specifying that one should be located in Cook County and four down state.

Dr. Ruth E. Church has assumed her duties as director of district health unit three, Illinois Department of Public Health, Savanna.

CHAMPAIGN COUNTY

Dr. Cyrus F. Newcomb, Champaign physician, will continue to serve as acting director of the Champaign-Urbana Public Health District.

COOK COUNTY

Dr. Cornelius W. Vermeulen was recently appointed associate professor of surgery at the University of Illinois College of Medicine. Dr. Vermeulen received his M.D. Degree from the University of Chicago in 1937 and served as an instructor in surgery at that university until he left for army service in 1942. At the time af his discharge last spring he was chief of surgical ser-

vice at the army air force Regional Hospital in Amarillo, Tex. Dr. Vermeulen is the author of a number of articles in the field of urology.

Dr. Charles Edwin Galloway addressed the Iowa and Illinois Central District Medical Association in Davenport, Iowa, on September 12th on the subject of "Treatment of Abortion."

Dr. Richard H. Young, physician to Northwestern University and Director of student health, has accepted the deanship of the school of medicine at the University of Utah. He will assume his new duties this fall.

Dr. Victore Lespinasse, a faculty member of Northwestern University Medical School was honored by the American Urological Association at its 41st annual convention in Cincinnati for her research work in cancer of the kidneys.

The first refresher institute for occupational therapists was held at the University of Illinois College of Medicine on August 15th.

Dr. Walter G. Maddock and Dr. Bertha A. Klien have been appointed associate professors of surgery and ophthalmology respectively at Northwestern University Medical School. Dr. Maddock was recently released from military service, and Dr. Klien has been serving as associate professor of ophthalmology at the University of Illinois College of Medicine.

The Dr. Leonard H. and Louis Weissman, Medical Research Foundation was recently organized to perpetuate the memory of Dr. Leonard H. Weissman, formerly assistant administration officer of the Cook County Hospital, and his brother Louis Weissman, both of whom were killed in airplane accidents over Germany during World War II. The funds that are collected by the group organizing and carrying on this corporation, which is organized as a nonprofit corporation under the laws of the state of Illinois, are to be used for medical research. The foundation is closely connected and allied with the Hektoen Institute. On June 26 the foundation donated $5,000 to the Hektoen Institute to be used for medical research on rheumatic heart fever. Dr. Weissman's obituary appeared in The Journal July 13, page 934.

Dr. Herman Smith, director of the Michael Reese Hospital since 1920, has resigned, effective on the selection and appointment of a successor. Dr. Smith, who will continue to live in Chicago, will devote his full time to his private practice as a consultant to hospital boards and architects in hospital planning and building, and also as a consultant to hospital boards in hospital administration.

The Illinois Society for Mental Hygiene announced that begining July 1 all inquiries regarding individual problems and the use of psychiatric facilities and resources in such cases would be handled in the offices of the Community Referral Service. The Illinois Society for Mental Hygiene will continue to serve as a clearing house on subjects relating to mental hygiene and to comply with requests for specialized information to individuals and groups with particular interests or responsibilities in this field. The mental hygiene society is located at 343 South Dearborn Street and the referral service at 105 West Adams Street, room 230.

Dr. Jay A. Myers, Minneapolis, will address the Chicago Tuberculosis Society at the Bismark Hotel, October 24, on "Early Tuberculosis." Dr. Hugo T. Cutera is secretary-treasurer of the society.

Dr. William B. Wartman, who served as a lieutenant colonel in the medical corps, A. U. S., during the war, has been appointed Morrison professor of pathology and chairman of that department in the Northwestern University Medical School, it was announced August 5. Dr. Wartman, who graduated at the University of Pennsylvania School of Medicine, Philadelphia, in 1932, served on the staff of Western Reserve University School of Medicine, Cleveland, in 1935-1941, becoming pathologist in charge of the university hospitals in 1939.

A 35 million electron volt betatron, a machine invented for study of atomic power, will be constructed this fall for use in cancer research at Michael Reese Hospital. The Chicago *Sun* in reporting an interview with Dr. Erich M. Uhlmann, director of the tumor clinic at the hospital, reported July 19 that new vistas in the war on cancer opened as a result of betatron experiments at the University of Illinois. With the recent disclosure that a free beam of electrons had been successfully released three weeks ago from the 22 million electron volt betatron at the university, possibilities were foreseen, among others, of creating artificial radioactive substances and of attacking deep seated cancer. Dr. Uhlmann stated that it would take possibly five years before he would have terminated experiments on biologic objects and animals and begun using the betatron on human beings. "Liberation" of the free beam of electrons terminated nine months of work directed by Lester S. Skaggs, Ph.D. physicist of the tumor clinic at Michael Reese, who was on loan to the University of Illinois.

The Army Commendation Ribbon was recently awarded to Lieut. Col. Maurice A. Walker, formerly of Chicago, "for meritorious service as safety consultant, Baxter General Hospital, Spokane, Wash., from Jan. 1, 1944 to Oct. 15, 1945. In addition to his duties as chief of surgical service Lieutenant Colonel Walker was responsible for conducting and maintaining a safety program which, through his zeal and unremitting efforts, resulted in an outstanding record of 4,312,316 man hours of work accomplished without loss of time due,to accidents. His superior performance of duty contributed materially to the welfare of employees at this hospital." Dr. Walker graduated from Rush Medical College, Chicago, in 1928 and entered the service Sept. 12, 1942.

Dr. Warren H. Cole is serving as acting dean of the University of Illinois College of Medicine and executive dean of the Chicago Colleges until Dr. Andrew C. Ivy assumes his position as vice-president, September 1.

Dr. Robert R. Mustell has been invited to address a Conference of the Illinois Federation of Women's Clubs on September 28th.

Dr. Mitchell L. Krupinski will talk before the Richard Yates Parent Teacher Association on October 1st on the subject "Youth is the Future in a Healthier World."

Dr. Arthur H. Rosenblum will address the James Madison Parent Teacher Association Octtober 15th speaking on "Your Child's Heart."

Dr. George A. Hellmuth has been invited to address the Windsor Park Woman's Club on October 22nd. He will discuss "Heart Disease."

Dr. M. A. Perlstein has been invited by the Michigan Society for Crippled Children to hold institutes on cerebral palsy in Grand Rapids and in Kalamazoo, Michigan, on November 7, 8 and 9.

Dr. Herbert E. Schmitz will address the Southern Illinois Medical Society on November 14th, subject, "Cancer of the Uterus."

FRANKLIN COUNTY

Dr. Grover C. Chamness who had planned to practice in Lovington has cancelled his plans and has decided to locate in Ziegler.

GRUNDY COUNTY

Dr. Elliot M. Tratt resumed his medical practice in Morris recently taking over his old office he occupied before the war.

HENRY COUNTY

Dr. C. Paul White addressed the Rotary Club of Kewanee August 6th, subject, "What a Physical Examination Means To You."

JEFFERSON COUNTY

Dr. Louis Emmerson Ward has returned to Mount Vernon after serving two and one-half years in the army medical corps.

Mount Vernon is one of the four downstate locations chosen for a state tuberculosis sanatorium as authorized by the general assembly.

KANKAKEE COUNTY

Dr. Charles W. McMillin after 43 months of service in the medical corps, Army Air Forces, has returned to Kankakee and opened a new office for the practice of his specialty, eye, ear, nose and throat.

LA SALLE COUNTY

LaSalle County Medical Society arranged a cancer porgram for their September 12th meeting. Dr. Danely P. Slaughter presented "Cancer of the Breast" and Dr. Warren H. Cole spoke on "Cancer of the Stomach."

Dr. Howard Hamlin, chief of the neurosurgical laboratory at Mayo General Hospital, spoke before the Nazarene Church of Ottawa on Sunday, July 7th. Dr. Hamlin is under appointment for medical missionary work in China and expects to sail in the near future.

Dr. Charles E. Radliff who served nearly 4 years as an army medical officer, was recently elected commander of the Peru post of the American Legion.

LEE COUNTY

Dr. Horace Dunn has opened an office in Franklin Grove for the practice of medicine. Dr. Dunn has been company physician for the Milwaukee railroad at Ladd and Granville for 30 years and also served as industrial surgeon for several Rockford industries for a period of about 3 years.

MACOUPIN COUNTY

Dr. Pliny A. Adams, formerly of Downers Grove, Illinois, opened an office in Staunton for the general practice of medicine.

McLEAN COUNTY

The Educational Committee arranged a program for the Illinois State Normal University to be presented October 10th; two talking films were secured, "Hygiene of Swimming" and "Life History of the Rocky Mountain Wood Tick."

MADISON COUNTY

Dr. Leslie D. Darner, Granite City, who has been confined to his home because of a leg injury, is much improved.

MORGAN COUNTY

Dr. George L. Drennan of Jacksonville, has been appointed a member of the Advisory Committee on Child Health Service, American Academy of Pediatrics.

Dr. Harlan English, Danville, chairman of the Illinois State Medical Society Committee on rural medical services addressed a conference at MacMurray College recently. His subject was "Problems of Adequate Medical Care and Services for Rural Communities."

Dr. George E. Moore, formerly of Jacksonville, who served with the U. S. Medical Corps with the rank of Lieutenant colonel, has recently been awarded the Legion of Merit.

OGLE COUNTY

Dr. and Mrs. R. S. Johnston of Chana, recently celebrated their 40th wedding anniversary. Dr. Johnston has practiced medicine at Chana for the past 30 years.

PERRY COUNTY

Dr. and Mrs. J. S. Templeton of Pickneyville, became the proud parents of a six pound baby girl recently. Dr. Templeton is a past president of the Illinois State Medical Society and has been practicing medicine 48 years.

RANDOLPH COUNTY

The doctors of Randolph County Medical Society entertained the editors of the county at a dinner meeting at Dreamland Cafe in Sparta on July 31st.

ROCK ISLAND COUNTY

Dr. Harold M. Camp, Secretary of the Illinois State Medical Society, addressed the Moline Rotary Club on August 12th, subject "Recent Developments in Medicine."

Dr. Clement P. O'Neill, Rock Island, has been invited to address the Woman's Club of that city in September on the subject of Cancer.

STEPHENSON COUNTY

Dr. Eugene Vickery has returned to Lena to resume his medical practice.

VERMILION COUNTY

Dr. Henry Lattuda will be associated with Dr. Jean Moore and Dr. H. F. Hooker in the new clinic in Danville. Dr. Lattuda will specialize in obstetrics and gynecology.

DEATHS

HARVEY V. ANDERSON, Westfield; Bennett College Eclectic Medicine and Surgery, 1914. Practiced many years in Westfield until ill health forced him to retire. Spent the last few years of his life at Otterbein Home, Dayton, Ohio. Died July 14th, aged 80, of carcinoma of prostate.

MARY ELLA ASH, Galva; College of Physicians and Surgeons, Chicago, School of Medicine of the University of Illinois, 1903. Died in St. Petersburg, Fla., April 20, aged 71, of cerebral hemorrage.

GEORGE W. BOWMAN, Alsey; National University of Arts and Sciences Medical Department, St. Louis, Mo. Had practiced medicine in Scott County for 62 years. Died August 13, aged 88.

RACHEL H. CARR, Wilmette, retired; Northwestern University Woman's Medical School, 1887. Was second woman intern at Cook County Hospital. Started practice of medicine in Chicago in 1889. Died in St. Francis Hospital, Evanston, August 13, aged 90.

GILBERT S. COUGH, Mt. Carmel; Eclectic Medical College, Cincinnati, Ohio, 1897. Died recently, aged 76.

LOUIS FAULKNER, Chicago; Chicago Homeopathic Medical College, 1896 and University of Illinois College of Physicians and Surgeons, 1904. Former head of the department of obstetrics in West Suburban Hospital. Died August 6, aged 73.

LOUIS J. GAY, Chicago; Rush Medical College, 1902. Was veteran of World War I. Died July 24th, following a brief illness which developed after a fishing trip near Eagle River, Wisconsin. He was 55 years of age.

SAMUEL A. GERACI, Chicago; Loyola University School of Medicine, 1926. Died suddenly in August at the age of 47.

EDWARD HENRY JOHNSTON, Chicago; Loyola University School of Medicine, 1918. Died of a heart attack, July 26th, aged 52.

TULLIUS BLAINE LEWIS, Hammond; Hering Medical College, 1907. Died suddenly in Jarman Hospital, Tuscola, July 9th at the age of 64.

MORRIS LIEDERMAN, Chicago; Chicago College of Medicine and Surgery, 1917. Had practiced 23 years as pediatrician in Chicago; died while making a call, July 25, at the age of 56.

CLIFFORD O. MCCREEDY, Aledo; Chicago Medical College, 1934. Was killed in an automobile accident, August 8th. He was 41 years old.

JOSEPH F. MELOAN, Abingdon; Barnes Medical College, St. Louis, Mo., 1897. Died following a stroke July 25 at the age of 76.

JOHN WEIR, West Union; Kentucky School of Medicine, Louisville, 1892. Died suddenly in his home, July 19th, at the age of 78.

JOSEPH FRANK WILSON, Versailles; Barnes Medical College, St. Louis, Mo., 1899. Had practiced medicine in Versailles for 45 years. Died July 31, following an illness of several months. He was 70.